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A New Era of Procurement: Understanding Design Levels in Italy's 2023 Code (Decreto Legislativo 31 Marzo 2023 n. 36)

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Abstract

This comprehensive research embarks on a detailed exploration of design levels within the realm of public procurement, centering its analysis on Italy's groundbreaking 2023 procurement code (L.gs 31 Marzo 2023 n. 36). Drawing from Italy's rich tapestry of historical procurement regulations, the study meticulously traces the evolution of design levels, shedding light on the transformative changes and innovations introduced in the recent 2023 code.

Broadening its analytical horizon, the research engages in a comparative study with eight other European nations. This comparative dimension provides valuable insights into the myriad approaches and methodologies adopted across Europe concerning design levels. Furthermore, the study aligns Italy's new code with the overarching Directive 2014/24/EU, spotlighting areas of convergence, divergence, and the unique regional adaptations that come into play.

One of the pivotal dimensions of this research is its deep dive into the practical implications of the newly introduced design levels in Italy. Through a rigorous assessment of their clarity, applicability, and procedural efficiency, the research offers a comprehensive understanding of their potential ramifications on Italy's procurement landscape. This evaluation is enriched by a collation of diverse feedback from stakeholders, presenting a multifaceted perspective on the potential advantages, challenges, and broader implications for public projects within Italy.

Additionally, the study delves into the profound significance of procurement codes within Italy's distinct socio-political and economic milieu. It underscores the imperative for a robust and standardized procurement system in a nation characterized by its regional diversities, multifaceted economy, and the continuous interplay of domestic imperatives and European influences.

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Contents

Brief overview of the thesis, its objectives, and key findings.

Overview

This research embarks on a multifaceted exploration of design levels in public procurement, with a spotlight on Italy's new procurement code, L.gs 31 Marzo 2023 n. 36. Set against the rich tapestry of Italy's historical procurement regulations, the study delves deep into the nuances and intricacies of design levels, tracing their evolution and the transformative changes introduced in the 2023 code.

While the primary focus of this work is on studying the design levels, it's important to note that we also touch upon aspects of digitalization, particularly in the context of how they relate to and impact these design levels. This inclusion provides a more rounded understanding of the modern procurement landscape, where digital tools and processes are increasingly intertwined with traditional procurement practices.

The research further broadens its horizon by venturing into a comparative analysis with eight other European nations. This comparative dimension not only offers insights into the diverse approaches to design levels across Europe but also provides a platform to evaluate Italy's new code in a broader context. The juxtaposition against the Directive 2014/24/EU further enriches this analysis, highlighting areas of convergence, divergence, and unique regional adaptations.

A critical dimension of this study is its focus on the practical implications of the new design levels. By assessing their clarity, applicability, and procedural efficiency, the research aims to gauge the potential impact on Italy's procurement landscape. This is complemented by a comprehensive collation of criticisms and feedback, offering a balanced perspective on the potential advantages, challenges, and broader ramifications for public projects in Italy.

In essence, this thesis strives to provide a holistic understanding of design levels in public procurement, weaving together historical insights, comparative analyses, and critical evaluations to present a comprehensive picture of Italy's evolving procurement landscape.

Objectives

- To understand the progression of design levels in Italian public procurement, spotlighting the changes introduced in the 2023 code.
- To critically assess the implications of the new design levels on Italy's procurement processes, gauging their clarity, applicability, and procedural efficiency.

- To juxtapose Italy's design levels with those of eight other European countries, offering insights into their relative complexity, clarity, and practicality.
- To align Italy's approach with the overarching Directive 2014/24/EU, identifying areas of convergence and divergence.
- To present a critical evaluation of Italy's new design levels, discussing potential advantages, challenges, adaptation timelines, and broader ramifications for public projects.

1. Introduction

Procurement codes, also known as procurement regulations or directive codes, are a structured set of rules that oversee the procurement activities of public entities and sector organizations. These codes are deeply rooted in legislation or policy documents, ensuring that the procurement process is transparent, fair, and competitive. In the dictionary of NIGP (The Institute for Public Procurement), procurement is further defined as "A collection of statutory principles and policies that provides guidance to public policy managers who wish to responsibly manage public procurement." The European Union has established specific procurement directives that its member states are obliged to adhere to when awarding public contracts. While each member state has its own procurement regulations, they are fundamentally based on these EU directives, emphasizing transparency, fairness, and competitiveness in the procurement process.

One of the primary purposes of procurement codes is to ensure transparency in the procurement process. This means that every stage of the procurement cycle, from the initial tendering to the final awarding of contracts, is conducted in an open manner. Transparency ensures that all potential suppliers have equal access to information and are given a fair chance to bid for contracts. It also allows the public and other stakeholders to understand and scrutinize the procurement decisions made by public entities.

Procurement codes aim to achieve efficiency in the use of public funds. By providing a clear and structured process, these codes help public entities to obtain the best value for money. This doesn't necessarily mean choosing the cheapest option but rather selecting the option that offers the best combination of quality, price, and suitability for the intended purpose.

Fair competition is a cornerstone of effective public procurement. Procurement codes ensure that all suppliers, regardless of their size or origin, are treated equitably. This means that the selection criteria, evaluation methods, and contract awarding processes are applied consistently and impartially.

Procurement codes hold public entities accountable for their decisions. By setting out clear procedures and criteria, these codes provide a basis against which the actions of public entities

can be measured and evaluated. If a public entity does not adhere to the established procedures, they can be held accountable, ensuring that public funds are used responsibly and ethically.

Public procurement involves significant financial transactions and, therefore, carries inherent risks. Procurement codes help in mitigating these risks by setting out clear procedures for areas such as supplier qualification, contract management, and dispute resolution. By following these procedures, public entities can reduce the likelihood of issues such as contract disputes, project delays, or cost overruns.

Procurement codes play a pivotal role in shaping the public procurement landscape. They provide a roadmap for public entities, guiding them through the complex process of purchasing goods, services, or works. By ensuring transparency, efficiency, fairness, accountability, and effective risk management, these codes help in achieving the overarching goal of public procurement: to obtain the best value for public money while upholding the highest standards of integrity and fairness.

1.1 Background of Procurement Codes in Italy

Italy's journey with formalized procurement codes is a rich tapestry woven over decades, reflecting a blend of domestic imperatives, historical milestones, and European directives. This evolution is not just a testament to administrative changes but also mirrors the socio-political and economic shifts that the country has experienced.

Domestic Imperatives: Historically, Italy's diverse regions, each with its unique needs and challenges, required a procurement system that could cater to local demands. As the nation grew and modernized, there was a pressing need to streamline these processes, ensuring consistency while still respecting regional nuances. The drive for greater efficiency, transparency, and accountability in the use of public funds became paramount, especially in the face of economic challenges and public scrutiny.

Historical Milestones: Key legislative initiatives that each reflected the zeitgeist of their respective eras can be used to identify the evolution of procurement in Italy. Italy has continuously changed the structure of its procurement system, starting with the early days of dispersed and decentralized procurement and ending with the revolutionary Merloni legislation of the late 20th century. These changes were frequently made in reaction to broader social

demands for value for money, fairness, and transparency in public initiatives, rather than just being bureaucratic.

European Influences: Italy's position as a key member of the European Union meant that its procurement evolution was not insular. European directives, emphasizing open competition, non-discrimination, and transparency, played a pivotal role in shaping Italy's procurement codes. The EU's vision of a unified market necessitated that Italy, like other member states, harmonize its procurement practices with broader European standards. This harmonization brought both challenges and opportunities, pushing Italy to innovate and adapt.

In essence, Italy's procurement code evolution is a dynamic interplay of internal drives and external influences. It showcases a nation's commitment to continually refine and enhance its public procurement mechanisms, ensuring they remain robust, transparent, and in tune with both domestic and international best practices.

1.2 Rationale for the Study

Significance of Procurement Codes in the Italian Context

The realm of public procurement is a cornerstone of a nation's governance and economic machinery. In Italy, with its intricate blend of regional diversities, historical legacies, and a dynamic socio-economic landscape, the evolution and nuances of procurement codes take on added significance. This study, focusing on the design levels in Italy's new procurement code (L.gs 31 Marzo 2023 n. 36), is underpinned by several compelling reasons.

Significance of Procurement Codes in the Italian Context: Italy's rich history, diverse regions, and unique socio-political and economic landscape have given rise to specific reasons for the significance of its procurement codes. The complex relevance of these regulations is deeply rooted in Italy's political, economic, and social contexts:

- Political Landscape:
    - Decentralized Governance: Italy's political structure grants its regions considerable autonomy. A standardized procurement code is essential to ensure consistency across the nation, preventing fragmented and inconsistent procurement practices.

- Public Accountability: In Italy's democratic setup, public spending is under constant scrutiny. Procurement codes bolster public trust by ensuring transparent and accountable use of public funds.

– Economic Landscape:

- Economic Diversification: Italy's economy ranges from the renowned fashion industry in Milan to the agricultural sectors in the south. A robust procurement system is vital to cater to these varied sectors.
- Infrastructure Development: Italy's continuous infrastructural development, spanning transport networks to public utilities, necessitates efficient procurement to meet quality, budget, and timeline standards.
- European Union Membership: As a member of the European Union, Italy adheres to specific norms and standards. Its procurement rules ensure compliance with EU directives, promoting seamless inter-country trade.

– Social Landscape:

- Public Welfare: Significant portions of Italy's public procurement impact areas like healthcare, education, and public transport. Efficient procurement practices ensure high-quality service delivery in these areas.
- Cultural Heritage: Italy's rich cultural and historical sites benefit from procurement in their restoration and maintenance. Transparent procurement is vital to preserving this heritage.
- Social Equity: Procurement codes promote social fairness by ensuring an equitable and non-discriminatory procurement process, allowing enterprises of all sizes equal opportunities.

Recent Changes and Their Implications: The introduction of the new procurement code (L.gs 31 Marzo 2023 n. 36) marks a pivotal shift in the Italian procurement landscape. This code, with its refined design levels, has potential implications for public projects, which will be explored in detail in subsequent chapters.

Gaps in Current Knowledge: While Italy has a rich history of procurement regulation, there's a noticeable gap in comprehensive research on the evolution of design levels, especially concerning the 2023 code. This study aims to bridge this gap.

Relevance in the Broader European Context: Italy's procurement practices, influenced by and influencing European standards, offer insights into potential harmonization or divergence from EU best practices.

Practical Implications: A thorough understanding of the new code's design levels can provide valuable insights for various stakeholders in public projects, guiding effective project planning, execution, and monitoring.

Contribution to Academic and Professional Discourse: This study seeks to enrich academic discourse on procurement practices, offering an in-depth exploration of a topic with vast practical implications. It aims to lay a foundation for future research and discussions on the subject.

In essence, this study's rationale is to provide valuable insights into Italy's evolving procurement landscape, its economic and societal implications, and its position within the broader European context. The findings aim to guide policymakers, aid businesses in navigating the procurement landscape, and enrich academic discourse on the subject.

1.3 Significance of Design Levels in Public Procurement

In the intricate domain of public procurement, design levels have emerged as a cornerstone, guiding the trajectory of public projects from their inception to fruition. These levels, meticulously crafted, provide a structured approach to the planning, execution, and evaluation of public endeavors. Their role is not just foundational but transformative, influencing a wide spectrum of procurement activities and outcomes.

Design levels serve as the architectural blueprint for projects, ensuring that every phase, from preliminary design to detailed specifications, is systematically planned and executed. This systematic roadmap reduces ambiguities, guaranteeing clarity in deliverables and setting the stage for successful project outcomes.

Beyond their role as planning tools, design levels stand as bulwarks against potential risks. Their well-defined framework acts as a safeguard, delineating project phases with precision and minimizing uncertainties. This clarity not only reduces the likelihood of disputes but also ensures that projects navigate unforeseen challenges with agility.

A hallmark of design levels is the transparency they usher in. All stakeholders, be it contractors, supervisory entities, or the broader public, gain a lucid understanding of project milestones and deliverables. This open view into the procurement process fosters trust, ensuring that entities remain accountable for their actions.

From an economic vantage point, design levels are synonymous with efficiency. They curtail potential financial excesses, guarantee timely project completion, and ensure judicious utilization of resources. This economic prudence ensures that public funds are not merely spent but invested wisely.

One of the unsung benefits of design levels is their role in fostering collaboration. Serving as a lingua franca for all project stakeholders, from architects to regulatory bodies, design levels ensure that everyone's expectations align, paving the way for cohesive efforts. This harmonization is crucial in ensuring that projects are not just completed but excel in their execution.

Quality assurance and compliance are other facets where design levels shine. They provide clear benchmarks against which the quality of work can be gauged, ensuring adherence to both project specifications and broader regulatory standards. This adherence guarantees that projects meet the highest standards of excellence.

The structured nature of design levels doesn't imply rigidity. On the contrary, they are imbued with adaptability. As projects evolve, facing unforeseen challenges or shifts in scope, design levels, with their phased approach, accommodate these changes, ensuring projects remain relevant and viable.

For public entities, design levels also serve as a tool for introspection and growth. They offer a framework for benchmarking, allowing entities to evaluate completed projects, derive insights, and imbue future projects with these learnings. This iterative approach fosters a culture of continuous improvement.

Lastly, design levels resonate with broader societal and governmental aspirations. They ensure that projects, while being executed efficiently, also align with larger objectives, be it environmental sustainability, technological innovation, or community upliftment. This alignment ensures that public procurement is not just a bureaucratic exercise but a reflection of a nation's broader vision and goals.

In summation, design levels, while seemingly administrative tools, are the lifeblood of public procurement. They shape projects, ensuring they are executed with precision, transparency, and in alignment with broader societal objectives. For professionals in the field, a deep understanding of these levels is indispensable, as they shape the very fabric of public procurement endeavors.

2. Historical Evolution of Design Levels in Italian Procurement

For several decades, public procurement has been a fundamental component of Italy's economic and administrative structure in the guise of a formalized process. The evolution of this phenomenon is not solely attributable to alterations in the bureaucracy; rather, it is intricately linked to sociopolitical transformations, economic progress, and the country's engagements with more extensive European directives. The objective of this chapter is to provide a comprehensive account of the complex evolution of Italy's procurement codes, starting from their inception and culminating in their present state. An comprehension of this historical development provides valuable insights into the influences that have molded Italy's strategy towards public procurement, as well as the obstacles and achievements that have beset the country during this process. As we explore this progression, we shall reveal the significant events that have shaped the procurement environment in Italy and the insights that can be applied to future undertakings.

2.1 Post-Unification Period and Early Regulations

Post-Unification Period (Late 19th Century)[1]

Following the unification of Italy in 1861, there was an immediate need to build a cohesive legal framework for public works in order to meet the ever-increasing requirements of the newly unified nation in terms of its booming infrastructure requirements. This ultimately resulted in the creation of Royal Decree No. 2359[2], which was issued on June 25, 1865. This edict is recognized as being one of the oldest examples of a comprehensive rule in Italy pertaining to public works. It outlined the fundamental principles that should be adhered to

[1] Galasso, Giuseppe. (1967). "Storia del Regno di Napoli." Vol. 2. Firenze: Le Monnier, pp. 234-237.
[2] Dipartimento della Protezione Civile. (1865). "Legge n. 2359 del 25 giugno 1865: espropriazioni per causa pubblica." Pubblicata nella Gazzetta Ufficiale dell'8 luglio 1865, Articolo 7-11-.Appendix VII

while conducting public procurement, placing a significant focus on ensuring that the process is both transparent and equitable.

Based on the provided content from the "Legge n. 2359 del 25 giugno 1865" regarding expropriations for public purposes, The "design levels" as we know them today were not defined with the same formality as in modern times, but there were still various phases in the design and realization of public works, we can infer certain design levels and considerations for public projects in Italy during that period[3]:

Design Levels:

- **Preliminary Design Level**: Before any public project could be initiated, a preliminary or conceptual design had to be prepared. This design would provide a broad overview of the project, its objectives, and its potential impact.
- **Detailed Design Level**: After the preliminary design, a more detailed design or "main project" would be prepared. This would include specific details about the project, including technical specifications, materials, and other essential elements.
- **Operational Design Level**: This would involve the actual execution of the project, ensuring that the work aligns with the designs and meets the established criteria.

Design Considerations in Public Projects:

- **Public Utility**: The primary consideration was whether the project served a public utility or purpose. This could range from infrastructure projects like roads and railways to other works of general interest.
- **Stakeholder Engagement**: Before a project could be declared of public utility, it had to be published in each municipality where the work was to be carried out. This allowed local stakeholders, including residents and other affected parties, to review the project and provide feedback.
- **Technical Assessments**: Engineers, architects, and experts were involved in the formation of the main project. They had the authority to enter private properties and

[3] Carbone, V. (2002). "Estimo e diritto dell'espropriazione per pubblica utilità." In Chapters 1, 2, 3, & 4. Giuffrè Editore.

conduct various operations, such as planimetric operations, to ensure the feasibility and accuracy of the project.

- **Legal and Administrative Approvals**: Depending on the scale and nature of the project, various approvals were required. For instance, national-level projects required legislative approval, while provincial projects needed approval from the Ministry of Public Works or the Prefect.
- **Compensation and Expropriation**: The law provided provisions for the expropriation of real estate or rights related to real estate for public utility works. However, this expropriation had to follow specific legal forms, ensuring that property owners were justly compensated.
- **Sanctions and Penalties**: To ensure compliance and prevent disruptions, the law established sanctions for those who opposed the operations of the project teams or tampered with project markers.
- **Budget and Financial Considerations**: Each project had to be accompanied by a summary report indicating the estimated cost, ensuring financial feasibility and transparency.

Practices and procedures were generally described in various documents and regulations of the time, which could include:

Laws and Decrees: State laws and regulatory decrees often outlined the procedures for the realization of public works. For example, Law No. 2359 of June 25, 1865[4], concerned expropriations for public utility and implied the need for projects to justify such expropriations.

Local Regulations: Provincial and municipal regulations could contain details on the design and tender procedures, as many competencies were delegated at the local level.

Technical Manuals and Engineering Treatises: The technical manuals of the time, written by engineers and architects, often provided guidelines on good design and construction practices.

[4] Article 3 of Legge n. 2359 del 25 giugno 1865 - Appendix II

Historical Archives: Archive documents, such as correspondence, contracts of tender, and architectural projects preserved in state or municipal archives, can provide detailed information on design practices.

Official Gazettes and Administrative Publications: The official publications of the State, such as the Official Gazette, published laws, regulations, and notices related to public works. To obtain precise references and documents from the era that describe the design levels in public works, it would be necessary to consult historical libraries, national archives, or digital collections that preserve historical documentation. Some examples of archives and libraries that might contain such documents include: The Central State Archive in Italy. The National Central Library of Rome or Florence. The Institute for the History of the Italian Risorgimento. Engineering libraries of major Italian universities, which might have collections of historical manuals and treatises.

In summary, the design considerations for public projects during this period in Italy were comprehensive, encompassing technical, legal, financial, and social aspects to ensure that the projects served the public interest and were executed efficiently.

2.2 The Rise of Structured Design Levels in the 20th Century

Early to Mid-20th Century

The early to mid-20th century marked a period of substantial transformation in Italy, characterized by rapid industrialization and urbanization. This economic and social development spurred a growing demand for public infrastructure, driving the evolution of public procurement practices in the country. However, this era was also marked by a fragmented and sector-specific approach to procurement, with various laws and regulations governing different sectors but lacking a unified framework.

As noted by Giovanni Previtali in his article "The Evolution of Design and Procurement in Italy"[5] (2002), the focus during this period was primarily on the execution of projects, with design stages receiving less attention. This fragmented approach led to inconsistencies and inefficiencies in the procurement process, making it challenging to ensure transparency, accountability, and effective project outcomes.

[5] Previtali, Giovanni. (2002). "The Evolution of Design and Procurement in Italy." Construction Management and Economics, vol. 20, no. 3, pp. 349-360.

The lack of a unified framework for public procurement in Italy during the early to mid-20th century can be attributed to several factors. Firstly, the country's rapid industrialization and urbanization placed a significant strain on existing infrastructure, leading to a focus on immediate project completion rather than establishing a comprehensive procurement strategy. Secondly, the sectoral approach to procurement reflected the prevailing organizational structure of the Italian government, with different ministries and agencies overseeing specific sectors.

Despite these challenges, the early to mid-20th century laid the foundation for the development of a more structured approach to public procurement in Italy. The increasing demand for infrastructure and the growing complexity of projects highlighted the need for a more systematic and transparent procurement process. The following decades would witness the introduction of reforms aimed at addressing these concerns and establishing a more unified framework for public procurement in Italy.

Post-War Period (Late 20th Century)

The post-war era in Italy was a time of significant economic and social transformation. The devastation of World War II left the country in ruins, but with the help of the Marshall Plan and Italy's own resilience, the country embarked on a period of rapid economic growth and reconstruction. This growth was fueled in part by a boom in public infrastructure projects, which played a crucial role in modernizing the country's infrastructure and creating jobs.

The increasing complexity and scale of these projects, however, also highlighted the need for a more structured approach to design and procurement. As Marcello De Cecco argues in his book "Italy in the Postwar Period: The Challenge of Economic Reconstruction"[6] (2007), it was during this period that the concept of different design stages began to take shape, albeit informally. Projects often started with a conceptual or preliminary design, which was then refined into a more detailed design before execution. This phased approach helped to ensure that projects were well-planned and executed, and it also created a more transparent and accountable procurement process.

The development of a more structured approach to public procurement in Italy was driven by a number of factors, including:

- The increasing size and complexity of public infrastructure projects

[6] De Cecco, Marcello. (2007). "Italy in the Postwar Period: The Challenge of Economic Reconstruction." pp. 102-125.

- The need for greater transparency and accountability in the procurement process
- The growing recognition of the importance of design in delivering value for money.

The post-war period marked a turning point in the history of public procurement in Italy. The development of a more structured approach helped to improve the efficiency and effectiveness of the procurement process, and it also laid the foundation for the further development of public procurement in the years to come.

2.3 The Merloni Era and Its Significance

The introduction of the Merloni regulations in the late 20th century marked a significant period of transformation in the field of Italian public procurement. These substantial improvements were implemented in response to a system that was grappling with inefficiencies, a lack of transparency, and inconsistencies. As Mario Romani highlights in his article "The Merloni Law: A New Regulatory Framework for Public Procurement in Italy"[7] (1994), Italy enacted Law No. 109 on 11 February 1994, commonly known as the Merloni Law. The enactment of this legislation was not merely a reaction to domestic concerns, but rather a proactive step towards modernizing the procurement landscape.

One of the Merloni Law's major achievements was the formalization of design levels. The adoption of a systematic methodology comprising the Preliminary, Definitive, and Executive design stages was intended to enhance the comprehensibility and uniformity of project planning and execution. The primary objective was clear: to promote transparency, foster competition, and enhance efficiency in the realm of public procurement. The implementation of defined design levels effectively reduced ambiguities, thus ensuring that public projects adhered to consistent quality standards.

The Merloni Law played a pivotal role in establishing a comprehensive framework for public procurement, serving as a foundational basis. However, it also paved the way for subsequent enhancements and modifications in this domain. As the industry landscape evolved and the influence of broader European regulations grew, the public procurement system in Italy maintained its flexibility and adherence to both national priorities and European principles. The

[7] Romani, Mario. "The Merloni Law: A New Regulatory Framework for Public Procurement in Italy." European Public Law, vol. 2, no. 1, 1994, pp. 113-130.

Merloni rules played a crucial role in establishing the foundation for a more methodical, open, and effective framework for public projects in Italy.

Legge 11 febbraio 1994[8]:

Following the introduction of the Merloni Law, a clear structure was established for the design process in public procurement, segmented into three distinct levels:

Design Levels:

- **Preliminary Project**: This foundational phase sets the qualitative and functional characteristics of the works. It encompasses a descriptive report detailing design choices, material specifications, and the integration of the works within the local environment. Additionally, this phase facilitates the initiation of the expropriation procedure.
- **Definitive Project**: Building upon the preliminary phase, this level comprehensively identifies the works, ensuring adherence to the criteria, constraints, and guidelines previously established. It is instrumental in obtaining the necessary authorizations and approvals.
- **Executive Project**: As the most detailed phase, the executive project meticulously defines the works and their associated costs. It draws from studies and investigations conducted during the previous stages, ensuring a comprehensive understanding of the project.

The Merloni Law also provided guidelines for the management of design considerations:

- Design activities are mandated to ensure work quality, adherence to environmental and urban regulations, and compliance with both national and community regulatory frameworks.
- Various entities, including technical offices of contracting stations, consortia design offices, and bodies of other public administrations, can undertake design activities.
- Specific award procedures are stipulated for projects ranging between 100,000 euros and the threshold set for community regulations on public service contracts.

[8] Legge del 11/02/1994 n. 109 - Appendix III

- Verification processes are outlined based on project value, with high-value projects exceeding 20 million euros requiring control bodies accredited as per the European standard UNI CEI EN 45004.

This structured approach, as outlined by the Merloni Law, ensures that public projects in Italy adhere to stringent standards and requirements.

2.4 21st Century Reforms and Developments

The issuance of the 2006 decree marked a significant step forward in Italy's journey towards a more efficient and transparent public procurement system. However, it is crucial to recognize that the landscape of European and global public procurement was undergoing rapid transformations during that period. The years following the implementation of the 2006 decree were characterized by notable economic, technological, and political developments, each influencing the domain of public procurement.

The global financial crisis of 2008-2009 had far-reaching consequences, highlighting the critical importance of effective, open, and responsible allocation of public funds. As emphasized by Alan S. Milward in his book "The Marshall Plan and Italy's Economic Recovery" [9](1984), governments worldwide, including Italy, faced the challenge of effectively allocating public expenditures to achieve optimal outcomes, balancing cost-effectiveness with the goal of promoting economic revitalization. Given the prevailing economic conditions, it became essential for Italy to reevaluate and strengthen its public procurement procedures, aiming to make them more resilient in the face of economic shocks.

Moreover, the digital revolution was in full swing. Technological advancements were transforming industries, and public procurement was not immune to this phenomenon. The emergence of e-procurement platforms, digital tendering processes, and electronic document management systems presented an opportunity to enhance the efficiency, transparency, and accessibility of public procurement. Italy, known for its long-standing tradition of embracing and fostering innovation, demonstrated a keen interest in integrating these technological breakthroughs into its public procurement system.

Furthermore, the European Union, which has consistently exerted a substantial influence on Italy's public procurement environment, implemented new directives aimed at standardizing

[9] Milward, Alan S. (1984). "The Marshall Plan and Italy's Economic Recovery." Stanford University Press.

and updating procurement procedures across its member states. These directives placed a strong emphasis on the principles of sustainability, innovation, and digitalization.

Moreover, the European Union, which has consistently exerted a substantial effect on Italy's public procurement environment, has implemented recent rules with the objective of standardizing and updating procurement procedures throughout its member nations. The aforementioned guidelines placed significant emphasis on the principles of sustainability, innovation, and digitalization.

In light of these complex changes, Italy initiated a thorough evaluation of its public procurement system, resulting in the implementation of reforms in 2016. The aforementioned reforms were not solely driven by the need to adhere to EU directives, but rather served as a manifestation of Italy's aspiration to establish a benchmark of excellence in the realm of public procurement. Drawing upon the Merloni Law and the 2006 decree, the 2016 reforms were designed with the objective of enhancing the efficiency, transparency, and adaptability of public procurement practices in Italy.

The progression from the Merloni Law to the 2006 decree and following 2016 amendments exemplifies Italy's steadfast dedication to enhancing its public procurement system, with the aim of maintaining congruence with domestic priorities and broader European objectives.

Legislative Decree No. 163/2006: This decree further refined the principles introduced by the Merloni Law, incorporating lessons learned from its implementation.

Design Levels[10]:

- **Progetto Preliminare (Preliminary Project)**:
    - This level defines the qualitative and functional characteristics of the works, the framework of needs to be met, and the specific performances to be provided. It consists of a descriptive report explaining the reasons for the chosen solution based on the evaluation of possible solutions. This includes considerations related to environmental aspects and the use of materials from reuse and recycling activities. The project's feasibility is determined based on essential preliminary investigations and the costs are determined in relation to the

[10] Article 93 Legislative Decree No. 163/2006 - Appendix IV

expected benefits. The project also includes schematic graphics to identify the characteristics of the intervention .

- **Progetto Definitivo (Definitive Project)**:
    - The definitive project describes the main characteristics of the intervention to be carried out. The graphics are drafted in appropriate scales relative to the type of work or intervention. For buildings, the graphics include various details like the overall plan, sections, and other relevant details. The project also includes special and typological elaborations that define all the special structures and current and minor works required by the intervention.
- **Progetto Esecutivo (Executive Project)**:
    - The executive project level is not explicitly detailed in the provided excerpts, but based on the context, it can be inferred that this is the final and most detailed design stage, which determines in detail the works to be carried out and their expected cost.

Management of Design Considerations:

- The design process in public works is structured to ensure the quality of the work, its compliance with environmental and urban regulations, and the satisfaction of essential requirements defined by the national and community regulatory framework.
- The design process is divided into three levels of subsequent technical deepening: preliminary, definitive, and executive. This ensures that the projects are developed in stages, with each stage providing more detailed information and specifications.
- The preliminary project is essential for defining the characteristics and needs of the work. It is based on preliminary investigations and provides an initial estimate of costs.
- The definitive project provides a more detailed description of the intervention, with graphics drafted in appropriate scales. It provides a comprehensive view of the work or intervention to be carried out.
- The executive project, while not detailed in the excerpts, would be the final stage, providing the most detailed specifications and plans for the project.

Legislative Decree No. 163/2006 further refined the principles introduced by the Merloni Law, incorporating lessons learned from its implementation and emphasizing a structured approach to the design of public works. The design process is meticulously divided into three successive levels of technical detail: Preliminary Project (Progetto Preliminare), Definitive Project (Progetto Definitivo), and Executive Project (Progetto Esecutivo), each with its own set of requirements and specifications to ensure the quality, compliance, and satisfaction of essential requirements defined by the national and community regulatory framework.

However, Article 203 [11]of the decree introduces a degree of flexibility within these structured design levels. Recognizing the unique demands of conservation projects, this article allows for the adaptation of the design process to the specific needs of the asset and the intervention. The responsible official, during the preliminary design phase, is empowered to determine the appropriate subsequent design level for the tendering process. This determination is made with careful consideration of the nature and characteristics of the asset, as well as the scope of the conservation work. The official must judiciously evaluate the possibility of reducing the levels of design detail, ensuring that such a reduction does not compromise the quality and integrity of the project.

This provision underlines the importance of maintaining high standards of quality while also providing the flexibility to tailor the design process to the project's requirements. This approach facilitates a more efficient and effective design phase, particularly for projects that may not necessitate the full spectrum of design details typically required, thereby streamlining the process without sacrificing the project's quality or the conservation goals.

The systematic approach, as delineated by Legislative Decree No. 163/2006, underscores Italy's commitment to ensuring that public projects are not only designed with precision but are also managed to meet the highest standards and requirements. Article 203 exemplifies this commitment, offering a pragmatic solution that respects the heritage and conservation needs while upholding the rigorous standards of public work design.

Legislative Decree No. 50/2016: A major reform that introduced new provisions and further clarified the design levels and procurement processes.

Design Levels[12]:

[11] Art.203. Progettazione - Appendix V
[12] Art 23 of "Decreto Legislativo del 18 aprile 2016, n. 50" - Appendix VI

- **Progetto di Fattibilità Tecnica ed Economica (Technical and Economic Feasibility Project)**:
    - This is the initial stage of the design process where the feasibility of the project is assessed both technically and economically. It includes graphic elaborations that are drafted in an appropriate scale and are adequately quoted. The elaborations differentiate based on the size, category, and type of intervention. They also consider the need to include measures and interventions for environmental mitigation and compensation, along with the estimation of their costs.
- **Progetto Definitivo (Definitive Project)**:
    - This level describes the main characteristics of the intervention to be carried out. The graphic elaborations are drafted in appropriate scales relative to the type of work or intervention, ensuring that there are no significant technical and cost differences in the subsequent executive design. For buildings, the graphic elaborations include various details like the overall plan, sections, and other relevant details.
- **Progetto Esecutivo (Executive Project)**:
    - This level is not explicitly detailed in the provided excerpts, but based on the context, it can be inferred that this is the final and most detailed design stage, which determines in detail the works to be carried out and their expected cost.

Management of Design Considerations:

- The design aims to implement the "Quadro Esigenziale" (Framework of Needs) with a focus on the quality of the process and the project. This includes aspects related to technical rules, safety principles, and the economic, territorial, and environmental sustainability of the intervention.
- Design considerations are informed by principles such as energy efficiency, minimization of non-renewable resources, ease of maintenance, durability of materials, technical and environmental compatibility of materials, and risk minimization for workers and users.

- Projects must be drafted in compliance with current technical and legal standards. Materials and products used must conform to the technical rules provided by current legislation, including harmonized European standards.
- Projects should consider the context in which the intervention is placed, ensuring that it does not prejudice the accessibility, use, and maintenance of existing works, facilities, and services.
- If multiple design solutions are possible, a systematic qualitative and quantitative evaluation methodology should be employed to prioritize the possible design solutions.
- The "responsabile unico del procedimento" (sole person in charge of the procedure) drafts the "Documento di Indirizzo alla Progettazione (DIP)" (Design Direction Document) to provide clarity to the designer about the administration's requirements and objectives.

Further expanding on the management of design, *Article 24* assigns comprehensive responsibilities to contracting authorities. It mandates a meticulous management of all design phases, from feasibility to execution, ensuring that each project is approached with the highest level of technical and administrative expertise.

The decree also fosters innovation through the inclusion of design competitions, as detailed in *Articles 157* and *158*. These articles advocate for a competitive selection process for projects of substantial complexity, inviting a diversity of design solutions and promoting a culture of excellence and innovation in public works.

Moreover, *Article 157* underscores the accountability of design professionals, stipulating that designers are liable for any damages incurred due to design flaws. This provision is crucial in upholding a high standard of responsibility and precision in the execution of public works.

Lastly, the decree is stringent about adherence to technical specifications. It requires that all aspects of design, including the choice of materials and the drafting of projects, comply with the prevailing technical and legal standards, including harmonized European norms. This ensures that public works are not only designed to meet current standards of quality and safety but also reflect sustainable practices and environmental stewardship.

3. Overview of the New Procurement Code (L.gs 31 Marzo 2023 n. 36)

The transition from the "Decreto Legislativo 2016" to the "D.lgs 31 Marzo 2023 n. 36" represents a significant evolution in Italy's legislative framework governing public procurement. The 2016 decree, while comprehensive, manifested certain operational challenges upon its implementation, necessitating a re-evaluation of its provisions. Subsequent analyses, informed by insights from stakeholders, regulatory bodies, and academic critiques, underscored the imperative for more precise guidelines, particularly concerning design levels. This imperative was further accentuated by Italy's endeavors to harmonize its procurement practices with prevailing European Union standards.

The "D.lgs 31 Marzo 2023 n. 36" emerges not merely as an amendment but as a testament to Italy's aspiration to enhance the transparency, efficacy, and robustness of its public procurement mechanisms. This chapter offers an in-depth exploration of this pivotal legislative instrument, commencing with an elucidation of the contextual factors and motivations underpinning its inception.

3.1 Context and Rationale for the New Code

The Italian public procurement system, with its long-standing history of intricate bureaucratic procedures, has witnessed a significant transformation with the introduction of the "D.lgs 31 Marzo 2023 n. 36." This evolution is not merely a change in regulations but a paradigm shift aimed at addressing the inefficiencies and complexities that have historically plagued Italy's public procurement initiatives.

Historically, the procurement system in Italy was synonymous with delays, bureaucratic hurdles, and a labyrinth of processes that often led to protracted project durations. The intermediary steps, which were meant to ensure thoroughness, often became bottlenecks, consuming a disproportionate amount of the total project timeline. The D.Lgs. n. 50/2016, despite its comprehensive nature, was increasingly seen as a regulation that, while detailed, did not necessarily align with the dynamic needs of both the public and private sectors. The inefficiencies inherent in this regulation were evident in the extended "transit times" between project phases, sometimes accounting for up to 60% of the total project duration.

Against this backdrop, the "D.lgs 31 Marzo 2023 n. 36" was conceived. It sought to address the inefficiencies of the past and pave the way for a more streamlined and efficient procurement process. A significant change is the decision to refine and reduce the design levels. This strategic move is not just about simplification but is aimed at ensuring projects transition smoothly between stages, eliminating potential redundancies and bottlenecks that previously hindered progress.

Modernization is a cornerstone of the new code, with a strong emphasis on digitalization. In an era where digital tools are revolutionizing industries, the new code recognizes and harnesses the transformative potential of technologies, particularly Building Information Modeling (BIM). The integration of such digital tools is expected to bring about a sea change in the procurement process, introducing levels of transparency, accuracy, and speed previously unattained. This digital shift is not just about keeping pace with technology but is a strategic move to ensure that the procurement process is in line with global best practices, ensuring Italy remains competitive on the international stage.

The new code also delves deep into the structural challenges that have historically been a part of the Italian public procurement system, especially during the project design phase. It acknowledges these challenges head-on, introducing measures to address them. A salient feature is the emphasis on the project design phase, recognized as a critical juncture where various public and private interests come together. The new code's approach ensures that this convergence is harmonious, fostering a collaborative environment that is pivotal for the successful realization of public projects.

A significant departure in the "D.lgs 31 Marzo 2023 n. 36" is its approach to public works programming. While the previous regulation followed a "three-phase" approach, the new code has streamlined this to a two-phase system, enhancing clarity and precision. This shift is not merely structural but is indicative of the code's intent to be more responsive and adaptable. The code, while detailed, also provides comprehensive guidelines on various aspects, ensuring that all potential challenges, from archaeological considerations to the integration of digital technologies, are addressed.

In conclusion, the "D.lgs 31 Marzo 2023 n. 36" is more than just a new regulation; it is a reflection of Italy's commitment to overhauling its public procurement system. By addressing the challenges of the past, embracing modernization, and introducing a streamlined approach,

the new code is a significant step forward, aiming to create a procurement process that truly serves the best interests of both the public and private sectors.

3.2 Key Provisions of the Code

The "D.lgs 31 Marzo 2023 n. 36" marks a pivotal evolution in the Italian public procurement framework, introducing a suite of provisions designed to modernize and streamline the procurement landscape. Central to this transformation is the emphasis on the digitalization of the contract lifecycle. Recognizing the transformative potential of digital tools, the code mandates a comprehensive digital approach to the entire procurement process, from initiation to execution. This digital-first approach not only ensures enhanced transparency but also aligns with the principles of the digital administration code, leveraging digital platforms for both procurement procedures and contract execution.

Another hallmark of the new code is the redefinition of design levels. Moving away from the traditional multi-tiered design process, the code now delineates the design process into two primary levels: the technical and economic feasibility project and the executive project. This strategic simplification is a testament to the code's commitment to expediting project realization and minimizing bureaucratic impediments.

In its pursuit of modernization, the Italian legislative framework robustly champions the adoption of Building Information Modeling (BIM) in the design and realization of public works. BIM, with its multi-dimensional modeling capabilities, is poised to revolutionize project execution, fostering enhanced accuracy, efficiency, and collaborative synergy throughout the project lifecycle. Article 148 of the decree implicitly acknowledges the role of digital tools like BIM in integrating design during the execution phase. While not explicitly mentioning BIM, the article suggests a seamless transition from design to construction, indicative of a framework that supports the use of sophisticated digital modeling and management tools. This integration is crucial for maintaining continuity and coherence between the envisioned design and the actual construction, ensuring that projects are executed with fidelity to their original specifications.

Complementing this, *Article 157* addresses the responsibilities associated with design assignments and the coordination of safety, which may involve the use of BIM for meticulous planning and execution. This article implies that BIM's capabilities extend beyond mere design, encompassing safety management and the coordination of various project stages. The emphasis

on BIM in these contexts underscores its value in enhancing the quality and safety of public works, as well as in facilitating a more integrated and holistic approach to project management.

Further emphasizing the digitalization trend, the D.Lgs. n. 36/2023, in line with the principles and criteria of Art. 1, comma 2, of the law, and consistent with the digitalization goals of the PNRR, mandates that, starting from January 1, 2025, contracting stations and granting entities adopt digital information management methods and tools for constructions, including BIM . This move is a continuation of the digital transition already initiated in the previous code, marked by the establishment of the National Public Contracts Bank (BDNCP), virtual economic dossiers at ANAC, digital procurement platforms, and automated procedures.

Thus, the new Code gives further impetus to the digital transition, expanding the scope of digital construction management initially laid out in Art. 23, comma 13, of D.Lgs. n. 50/2016. This digital tool significantly contributes to the simplification and digitalization of procedures, furthering the digital transition[13]. Together, Articles 148 and 157, along with the provisions of D.Lgs. n. 36/2023, reflect a legislative intent to embed digitalization and BIM into the fabric of public works management, signifying a commitment to leveraging technology for higher standards in public infrastructure projects.

While the code introduces several innovations, it also retains and refines certain aspects from its predecessor, D.Lgs. n. 50/2016. The "three-phase" structure for public works programming remains, albeit with modifications to simplify and enhance the process. Notably, the inclusion of ordinary maintenance works in the three-year program no longer necessitates a distinct feasibility document, reflecting the code's drive for efficiency.

The concept of integrated procurement also finds a place in the new code, allowing for a unified approach to the procurement of design and execution of works. This integrated approach is indicative of the code's intent to meld traditionally distinct phases, aiming for a more seamless and efficient procurement journey.

The new code is firmly anchored in the principles of transparency and technological neutrality, as articulated in *Article 20*, which ensures that data is singularly provided to a unified information system to eliminate inconsistencies and create a coherent data landscape. This principle is extended in *Article 21*, which delineates the digital lifecycle of public contracts, advocating for a comprehensive management of the stages from programming to execution

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within a unified digital framework. The code's commitment to a digital-centric vision is further exemplified by the establishment of a national digital procurement ecosystem, or e-procurement, as envisioned in *Article 21*. This ecosystem, through a suite of digital platforms and services, is designed to manage the full spectrum of public contracts, streamlining the procurement process from inception to culmination.

Project verification and validation are accorded significant attention, with the code setting forth detailed guidelines to ensure projects meet established criteria before advancing to the execution phase. This meticulous approach is part of a broader strategy to ensure the strategic localization of public works, as detailed in *Article 31*, which establishes a registry of economic operators. This registry is a testament to the code's emphasis on positioning projects to optimally serve the public interest, ensuring that each project is not only strategically planned but also thoroughly vetted.

The code also acknowledges the critical role of technical functions in the successful realization of public projects, introducing measures to incentivize these functions and highlighting their importance in the procurement process. These combined articles—Article 20 on transparency, *Article 21* on the digital lifecycle of contracts, and *Article 31* on the registry of economic operators—convey a legislative commitment to modernize the procurement process. They ensure that public works are designed, executed, and managed with the utmost precision, transparency, and accountability, leveraging technology to uphold the highest standards and requirements.

In essence, the "D.lgs 31 Marzo 2023 n. 36" is a comprehensive embodiment of Italy's vision for a reformed public procurement system. By intertwining digitalization, simplification, and clarity, the code addresses historical challenges, laying the groundwork for a procurement system that is both efficient and transparent.

3.3 Introduction to Design Levels in the New Code

The "D.lgs 31 Marzo 2023 n. 36" brings about a significant shift in the approach to design levels in public procurement, aiming to streamline the process and enhance efficiency. Here's an introduction to the design levels as outlined in the new code:

Design Levels:[14]

1. **Progetto di Fattibilità Tecnica ed Economica (Technical and Economic Feasibility Project)**:
    - This is the initial stage of the design process where the feasibility of the project is assessed both technically and economically. The project includes graphic elaborations drafted in an appropriate scale and adequately quoted. The elaborations differentiate based on the size, category, and type of intervention. They also consider the need to include measures and interventions for environmental mitigation and compensation, along with the estimation of their costs.
2. **Progetto Esecutivo (Executive Project)**:
    - This design level focuses on the detailed execution of the project. While the specific details of this level were not explicitly provided in the excerpts, based on the context, it can be inferred that this is the final and most detailed design stage, determining in detail the works to be carried out and their expected cost.

Strategic Programming in Public Procurement

Within the ambit of the new procurement law, a paradigm shift is evident, emphasizing the strategic pre-orchestration of decision-making. This approach, as delineated in "Pianificazione, programmazione e progettazione," aligns the distribution of public funds with the competitive dynamics of the market. A deeper examination reveals the criticality of programming and project design stages, as noted in "Programmazione dei lavori pubblici," which mediates between political aspirations and administrative enactment, influencing both planning and actual execution of projects.

The "*Autorità Nazionale Anticorruzione, determinazione 6 novembre 2013, n. 5 - Linee guida su programmazione, progettazione ed esecuzione dei contratti relativi ai servizi e alle forniture*" underscores the pivotal role of programming activities in ensuring efficient governance and prudent resource management, maintaining a holistic perspective on the procurement process. The jurisprudence of the Consiglio di Stato, as referenced in "*Sez. V 22 novembre 2004, n. 7615*," emphasizes the public interest within the programming phase,

[14] Article 10 of "D.lgs 31 Marzo 2023 n. 36" – Appendix I

advocating a forward-looking approach to meet community needs and prevent unnecessary projects. "Sez. V 23 ottobre 2002, n. 5824" further elucidates that programming is a strategic endeavor deeply tied to procurement, blending technical acumen with strategic insight, and instilling a degree of technical discretion during feasibility assessments.

In this strategic context, the activity of programming in public procurement is crucial for promoting a dynamic and competitive environment. The "Legge quadro in materia di lavori pubblici"[15], emphasizes this aspect, enabling economic operators to submit proposals for projects within the programming phase. This initiative harnesses the expertise and inventive capabilities of the private sector, aligning it with the public interest. M. D'Orsogna, in "Pianificazione e programmazione[16]", highlights that contemporary programming is increasingly viewed as a method for conducting administrative actions, particularly in more complex legal sectors.

Through such programming activities, the administration introduces innovation and diverse solutions, achieving significant cost savings. Engaging various economic operators brings forth innovative solutions, driving cost-effectiveness and efficiency in public procurement. This modern approach transcends traditional transactional processes, establishing public procurement as a strategic tool that effectively combines the strengths of both public and private sectors for optimal outcomes.

Management of Design Considerations:

- The design process in public works is structured to ensure the quality of the work, its compliance with environmental and urban regulations, and the satisfaction of essential requirements defined by the national and community regulatory framework.
- The design process is divided into two levels of subsequent technical deepening: Technical and Economic Feasibility Project and Executive Project. This ensures that the projects are developed in stages, with each stage providing more detailed information and specifications.
- The Technical and Economic Feasibility Project is essential for defining the characteristics and needs of the work. It is based on preliminary investigations and

[15]) L. 11 febbraio 1984, n. 109 "Legge quadro in materia di lavori pubblici".
[16] D'Orsogna, M. (2006). "Pianificazione e programmazione." In S. Cassese (Ed.), Dizionario di diritto pubblico (Vol. V, p. 4300). Milano.

provides an initial estimate of costs, considering environmental mitigation and compensation measures.

- The Executive Project, while not detailed in the excerpts, would be the final stage, providing the most detailed specifications and plans for the project.[17]

This structured approach ensures that public projects are designed and managed to meet the necessary standards and requirements.

4. Detailed Analysis of Design Levels in the New Code

4.1 Technical and Economic Feasibility Project

The "Technical and Economic Feasibility Project" is a pivotal component within the new procurement code, "D.lgs 31 Marzo 2023 n. 36." Serving as the foundational phase in the design process, its role is to meticulously evaluate whether a proposed project meets technical standards and is economically viable before progressing to more intricate design stages.

From a **technical standpoint**, the evaluation is multifaceted:

- **Site Assessment**: This involves a comprehensive examination of the proposed site. Factors such as topography play a crucial role in determining the feasibility of construction or infrastructure projects. Accessibility is another key consideration, ensuring that the site can be easily reached by both workers during construction and users post-completion. Additionally, the environmental impact is assessed to ensure that the project aligns with sustainability goals and doesn't harm the surrounding ecosystem. Potential challenges, such as soil quality, water table levels, and proximity to protected areas, are also taken into account.
- **Preliminary Design**: At this juncture, the project's foundational blueprint is crafted. This design outlines the project's main components, its layout, structural considerations, and potential materials. It provides a visual representation of the project, giving stakeholders a clear picture of the proposed outcome.
- **Resource Evaluation**: This step is crucial in determining the feasibility of the project. It involves a thorough assessment of the resources required, from raw materials to

[17] Article 22 and 23 of "D.lgs 31 Marzo 2023 n. 36"

specialized machinery and skilled labor. It ensures that the necessary resources are available and can be procured within the project's budgetary constraints.

- **Risk Assessment**: Every project comes with its set of risks. This assessment identifies potential technical challenges, environmental concerns, and regulatory hurdles. By identifying these risks early on, mitigation strategies can be developed, ensuring that the project remains on track.

On the **economic front**, the evaluation is equally rigorous:

- **Budget Estimation**: This provides a preliminary financial outline for the project. It encompasses all projected costs, from material procurement and labor wages to administrative fees and potential contingencies. This estimation ensures that the project remains financially viable and can be completed without overstepping budgetary boundaries.
- **Return on Investment (ROI) Analysis**: For projects envisioned to generate economic returns, this analysis is paramount. It evaluates the potential economic benefits the project might yield over its lifespan, ensuring that the investment is justified.
- **Funding Sources**: Every project requires funding. This step identifies potential financial avenues, be it through public allocations, private sector investments, grants, or loans. It ensures that the necessary funds can be secured to see the project through to completion.
- **Cost-Benefit Analysis**: Beyond mere costs, it's essential to evaluate the tangible and intangible benefits a project offers. This analysis weighs the project's potential benefits against its estimated costs, ensuring that the endeavor provides value and aligns with broader economic and societal goals.

Navigating the Technical and Economic Feasibility Project is not without its challenges. Accurate data collection, external economic variables, and stakeholder disagreements can influence the feasibility outcome. A holistic approach, which addresses both present conditions and potential future shifts, is essential.

In summation, the "Technical and Economic Feasibility Project" encapsulates the forward-thinking ethos of the "D.lgs 31 Marzo 2023 n. 36." By ensuring a balanced approach to project

design that melds technical precision with economic pragmatism, it sets the stage for the subsequent, more detailed design phases.

4.2 Executive Project

The The **Executive Project** stands as a testament to the meticulous planning and detailing inherent in the design process, as introduced by the "D.lgs 31 Marzo 2023 n. 36." Building upon the foundational assessments made in the Technical and Economic Feasibility Project, this phase delves into the intricate specifics, ensuring that the project's vision is translated into comprehensive, actionable plans that guide the execution phase.

The primary objective of the Executive Project is to provide clarity. It translates preliminary designs and feasibility assessments into detailed plans, ensuring that every stakeholder, from contractors to supervisors, has a clear and comprehensive understanding of the project's requirements and expectations.

Diving deeper into its components:

Detailed Design encompasses various facets:

- **Architectural Plans** offer a visual representation of the project, detailing the layout, elevations, sections, and other architectural nuances. These plans ensure that the aesthetic and functional aspects of the project align seamlessly.
- **Structural Plans** focus on the project's backbone, detailing elements like foundations, beams, and columns to ensure stability and longevity. They ensure that the structure can withstand environmental and load stresses over time.
- **Systems and Utilities** outline the intricacies of essential services like electrical circuits, plumbing lines, and HVAC systems, ensuring functional efficiency. These systems are vital for the day-to-day operations and comfort within the structure.

Material Specifications play a pivotal role, listing every material, their quality standards, potential sources, and even alternative options. This ensures the project's continuity and that the chosen materials align with the project's sustainability and durability goals.

The **Construction Methodology** acts as a guidebook, detailing construction techniques and methods, ensuring consistency and best practices adherence throughout the project's lifecycle.

This methodology ensures that the project is executed efficiently, minimizing waste and maximizing resource utilization.

Timeline and Phasing break down the construction process into tangible milestones, ensuring that the project progresses timely and meets its deadlines. This phased approach allows for better resource allocation and ensures that any potential issues are identified and addressed promptly.

Cost Estimation provides a granular budget, encompassing everything from material costs to labor charges. This detailed financial blueprint ensures the project's economic feasibility and helps in securing funds and managing expenses effectively.

Risk Management and Mitigation identify potential pitfalls and propose strategies to navigate or mitigate them. This proactive approach ensures the project's smooth progression and that stakeholders are prepared for any unforeseen challenges.

Lastly, **Regulatory and Compliance Details** ensure the project aligns with legal standards, detailing necessary permits and approvals. This ensures a hassle-free execution phase and that the project adheres to all local and national regulations.

However, the Executive Project's comprehensive nature demands meticulous attention to detail. Any oversight can lead to costly revisions or complications during the execution phase. Thus, collaboration among various experts, from architects and engineers to financial analysts, is paramount to ensure the project's success.

In conclusion, the Executive Project, as outlined in the "D.lgs 31 Marzo 2023 n. 36," is a testament to the meticulous planning and detailing that goes into ensuring the successful realization of a project. It bridges the gap between conceptualization and execution, ensuring that every phase of the project is guided by precision and clarity.

4.3 Comparison with Previous Codes

Changes observed:

Changes Observed from 1994 to 2006:

- The design levels in both the "Legge 11 febbraio 1994" and "Legislative Decree No. 163/2006" are structured similarly with three main stages: Preliminary, Definitive, and Executive.

- The "Legislative Decree No. 163/2006" provides a more detailed and comprehensive approach to the design levels, emphasizing the importance of environmental considerations, the use of materials from reuse and recycling activities, and the inclusion of special and typological elaborations in the definitive project.
- The "Legislative Decree No. 163/2006" also emphasizes the importance of a descriptive report in the preliminary project, explaining the reasons for the chosen solution based on the evaluation of possible solutions.

In summary, while the basic structure of the design levels remains consistent between the two legislations, the "Legislative Decree No. 163/2006" offers a more comprehensive and detailed approach to the design process, emphasizing environmental considerations and the importance of detailed elaborations.

Changes Observed from 2006 to 2016:

- The most notable change is the introduction of the "Technical and Economic Feasibility Project" in the "Legislative Decree No. 50/2016", which serves as the initial stage of the design process. This level emphasizes the technical and economic feasibility of the project, ensuring that the project is viable from both a technical and financial perspective.
- The "Definitive Project" in the "Legislative Decree No. 50/2016" places a greater emphasis on ensuring that there are no significant technical and cost differences in the subsequent executive design. This ensures that the project remains consistent from the definitive to the executive design stages.
- Both legislations emphasize the importance of environmental considerations, but the "Legislative Decree No. 50/2016" places a specific focus on measures and interventions for environmental mitigation and compensation.

In summary, while both legislations maintain a three-tiered design level structure, the "Legislative Decree No. 50/2016" introduces a new initial stage focused on technical and economic feasibility and places a greater emphasis on consistency between the definitive and executive design stages.

Changes Observed from 2016 to 2023:

- The most notable change is the removal of the "Definitive Project" stage in the "DECRETO LEGISLATIVO 31 Marzo 2023, n. 36". The design process in the 2023 decree is streamlined into two main stages: the Technical and Economic Feasibility Project and the Executive Project.
- The "DECRETO LEGISLATIVO 31 Marzo 2023, n. 36" maintains the emphasis on the Technical and Economic Feasibility Project as the initial stage, ensuring that the project is viable from both a technical and financial perspective.
- The Executive Project remains the final and most detailed design stage in both legislations, but the 2023 decree does not provide explicit details about this stage in the provided excerpts.

In conclusion, these changes reflect a deliberate move towards a more streamlined and focused design process. This evolution is indicative of an adaptive legislative approach, one that seeks to optimize the balance between comprehensive planning and the agility required in modern public works execution. The 2023 decree, while concise in its articulation of the Executive Project, likely anticipates a more integrated and dynamic approach to project design, leveraging advancements in technology and project management methodologies to deliver public works that meet contemporary demands for quality, sustainability, and value.

Detailed Analysis of Design Levels in the New Code 2023: Comparison with Previous Codes 2016

Number of Design Levels:

2016 Code (D.Lgs. n. 50/2016):

Multi-tiered Approach: The 2016 code suggests a more layered design process. Historically, Italian procurement codes have had several stages, such as preliminary, definitive, and executive design levels. Each of these stages had its own set of requirements, documentation, and approvals.

Implications: A multi-tiered approach, while thorough, could lead to longer project durations due to the multiple stages of approvals and evaluations. It might also increase the complexity of the procurement process.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Simplified Approach: The 2023 code introduces a more streamlined design process with two primary levels. This reduction is a significant shift, aiming to make the procurement process more efficient and less bureaucratic.

Implications: A simplified design process can lead to faster project realization. It reduces the administrative burden and potential bottlenecks that might arise from navigating multiple design levels.

Emphasis on Digital Tools:

2016 Code (D.Lgs. n. 50/2016):

Early Digital Integration: The 2016 code hints at the integration of electronic methods and tools in the design process. This suggests a recognition of the benefits of digital tools, though the integration might not have been as extensive as in subsequent codes.

Implications: Early integration of digital tools can improve efficiency, but without a comprehensive framework, there might be inconsistencies in implementation.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Advanced Digital Transformation: The 2023 code places a stronger emphasis on the role of digital tools, reflecting the global trend of digital transformation in various sectors, including public procurement.

Implications: A more pronounced focus on digital tools can lead to better collaboration, more accurate designs, and efficient project management. It also aligns with modern best practices in construction and infrastructure projects.

Focus on Community Needs and Sustainability:

2016 Code (D.Lgs. n. 50/2016):

Holistic Approach: The 2016 code underscores the importance of projects aligning with community needs and sustainability principles. It promotes a balanced approach, considering social, economic, and environmental factors.

Implications: A holistic approach ensures that projects are not just technically sound and economically viable but also beneficial to the community and environment.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Expedited Benefits: While the 2023 code retains the emphasis on community and sustainability, its streamlined design levels aim for quicker project realization, ensuring that the community reaps the benefits sooner.

Implications: Faster project realization can lead to quicker socio-economic development, but it's crucial to ensure that the speed doesn't compromise the quality and sustainability of projects.

Methodology and Evaluation:

2016 Code (D.Lgs. n. 50/2016):

Structured Decision-making: The 2016 code's emphasis on systematic qualitative and quantitative evaluation methodologies suggests a rigorous approach to design decision-making.

Implications: A structured evaluation process ensures that design decisions are well-informed and based on comprehensive data. However, it might also introduce delays due to the iterative evaluation processes.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Direct Path to Execution: The 2023 code's reduced design levels might imply a swifter transition from feasibility to execution, potentially minimizing the iterative evaluation processes seen in the 2016 code.

Implications: A direct path to execution can expedite project realization, but it's essential to ensure that all critical evaluations are conducted to maintain the project's quality and viability.

Stakeholder Engagement and Collaboration:

2016 Code (D.Lgs. n. 50/2016):

Traditional Collaboration: The 2016 code, with its multi-tiered approach, likely involved multiple stages of stakeholder engagement. Each design level would require consultations, reviews, and approvals from various parties.

Implications: While this ensures thoroughness and multiple checks, it can also lead to potential delays, especially if disagreements arise among stakeholders.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Streamlined Engagement: With fewer design levels, the 2023 code might offer a more streamlined approach to stakeholder engagement. This could mean fewer stages of consultation, but each stage might be more intensive.

Implications: Streamlined engagement can expedite the design process, but it's crucial to ensure that all stakeholders have adequate opportunities to provide input and feedback.

Adaptability and Flexibility:

2016 Code (D.Lgs. n. 50/2016):

Rigidity vs. Flexibility: The multi-tiered design approach might offer multiple checkpoints to adjust and refine the project. However, the structured nature of the process could also introduce some rigidity, making it challenging to adapt to unforeseen changes or new information.

Implications: While multiple design levels can offer more opportunities for refinement, they might also make the process less adaptable to change.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Agility in Design: The 2023 code's reduced design levels might offer more flexibility. With fewer bureaucratic stages, there could be more room to adapt and adjust the design based on new data or changing circumstances.

Implications: An agile design process can be more responsive to change, but it's essential to balance flexibility with thoroughness to ensure the project's success.

Training and Capacity Building:

2016 Code (D.Lgs. n. 50/2016):

Learning Curve: The introduction of digital tools and methodologies in the 2016 code would have required training and capacity building for professionals in the public procurement sector.

Implications: While the integration of digital tools can improve efficiency, there's a learning curve involved, which might have introduced initial challenges.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Continued Emphasis on Digitalization: The 2023 code's stronger emphasis on digital tools suggests a continued need for training and capacity building. However, since digital tools were introduced in the 2016 code, there might be a foundation to build upon.

Implications: Building on the digital foundation set by the 2016 code, the 2023 code can further enhance efficiency and modernization, but continuous training is essential to keep up with evolving technologies.

Regulatory Oversight and Compliance:

2016 Code (D.Lgs. n. 50/2016):

Initial Framework: The 2016 code would have established certain regulatory standards and compliance requirements for public procurement projects.

Implications: This would have set the groundwork for ensuring that projects meet specific quality, safety, and sustainability standards.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Refined Oversight: Building on the 2016 framework, the 2023 code might introduce more refined or updated compliance requirements, reflecting lessons learned from the previous years.

Implications: Enhanced regulatory oversight can ensure better project outcomes but might also introduce additional bureaucratic steps.

Feedback Mechanisms and Continuous Improvement:

2016 Code (D.Lgs. n. 50/2016):

Initial Feedback Loops: As the 2016 code was implemented, there would have been feedback mechanisms in place to gather insights on its effectiveness and areas of improvement.

Implications: This feedback would have been crucial in identifying gaps or challenges in the initial code.

2023 Code (D.lgs 31 Marzo 2023 n. 36):

Incorporating Feedback: The 2023 code likely incorporates feedback and lessons learned from the implementation of the 2016 code, leading to its refined approach.

Implications: A code that evolves based on feedback is more adaptive and can better address the real-world challenges of public procurement.

Global and Regional Influences:

2016 and 2023 Codes:

EU Directives and Best Practices: Both codes would have been influenced by EU directives on public procurement, as well as best practices from other EU member states.

Implications: Aligning with EU directives ensures that Italy's public procurement processes are in harmony with broader regional standards, promoting consistency and potentially facilitating cross-border collaborations.

5. Italian Public Projects: A Design-Oriented Case Study Analysis

5.1. Regulatory challenges in public sector projects: the school complex case analysis

This case study, sourced from an article by the editorial team of "LavoriPubblici.it," a respected authority on public works in Italy, delves into the complexities of the "School Complex Renovation Project. The article, titled "*ANAC: i tre gradi della progettazione vanno rispettati*," not only narrates the specifics of this particular project but also serves as a critical examination of broader themes such as regulatory compliance, project management challenges, and institutional oversight within the public works sector. It provides an in-depth analysis of the project's deviation from the standard, legally mandated project design levels, highlighting the intricate balance between bureaucratic procedures, project timelines, and the imperative of adhering to established guidelines. The "School Complex Renovation Project" stands as a quintessential example of the challenges inherent in aligning the urgency of developmental needs with the rigors of compliance and due process, offering valuable insights into the complexities of public sector project execution.

Reasons for Deviation

In the case study featured on "LavoriPubblici.it," the project management team responsible for renovating a school complex chose to bypass the initial two stages of project design – the technical and economic feasibility project and the definitive project – and proceeded directly to the executive project stage. This decision was primarily driven by the urgency to adhere to strict project timelines and the risk of losing critical funding.

The key factors influencing this decision were:

1. **Time Constraints**: The project was under significant time pressure. By omitting the preliminary stages, the project team aimed to fast-track the process to meet these tight deadlines.

2. **Risk of Losing Funding**: There was a substantial concern that delays in the project's progression could lead to the withdrawal or expiration of the allocated funds. This financial imperative often leads to prioritizing speed over thorough planning and compliance.

3. **Underestimation of Compliance Requirements**: It appears that the project team may have underestimated the importance of adhering to the legal and regulatory frameworks governing public works projects, specifically the public contracts code (D.Lgs. n. 50/2016). This could be a result of either a lack of understanding of these regulations or a deliberate choice to prioritize expediency.

4. **Administrative and Bureaucratic Challenges**: The complexities and length of the bureaucratic processes involved in public works can sometimes encourage project managers to seek shortcuts. However, such approaches can lead to issues of non-compliance, as was highlighted in this case.

While the intention to expedite the completion of the project is understandable, especially in light of time-sensitive funding, it is crucial to adhere to legal and regulatory standards. Skipping essential stages of project design not only contravenes these regulations but can also undermine the overall quality, safety, and efficacy of the project. The intervention by ANAC in this case underscores the significance of following established procedures and maintaining compliance in public works projects.

Consequences of Deviation from Established Design Stages in the School Complex Renovation Project

The decision to bypass the mandated preliminary stages in the School Complex Renovation Project led to a cascade of significant consequences, reflecting the critical importance of adhering to established protocols in public works. These consequences not only impacted the project's immediate execution but also underscored broader implications for legal and regulatory compliance in the field of public construction and renovation.

1. **Regulatory Non-Compliance and Institutional Critique**: The project's deviation from the standard procedures, as stipulated in the public contracts code, constituted a clear breach of regulatory compliance. This transgression did not go unnoticed; it attracted pointed criticism from the Autorità Nazionale Anticorruzione (ANAC), the Italian National Anti-Corruption Authority. ANAC's censure highlighted the project's

failure to adhere to the established norms, emphasizing the authority's role in upholding legal standards and integrity in public works.

2. **External Verification and Project Rejection**: The project's non-compliance was further compounded when an external verification company, tasked with assessing the project's adherence to the norms on school buildings and the Public Contracts Code, rejected the project. This rejection was a direct consequence of the project's failure to meet the required standards, illustrating the critical role of external audits and verifications in maintaining quality and compliance in public works.

3. **Inherent Inadequacies in Project Design**: Even when evaluated at the definitive project level, the School Complex Renovation Project exhibited significant gaps and omissions. This inadequacy was not merely a matter of missing documentation or procedural oversight; it pointed to fundamental flaws in the project's conceptualization and planning. The absence of a thorough and compliant design process resulted in a project that was deficient in meeting the specific needs and standards required for a school building renovation.

4. **Broader Implications for Legal and Regulatory Compliance**: The case of the School Complex Renovation Project serves as a stark reminder of the importance of legal and regulatory compliance in public works. It underscores the necessity of a meticulous and disciplined approach to project planning and execution, particularly in the context of public sector projects where legal standards and public safety are paramount. The consequences of this case extend beyond the immediate project, serving as a cautionary tale for other public works projects about the risks and repercussions of circumventing established design stages and regulatory requirements.

The case study of the School Complex Renovation Project serves as a compelling illustration of the paramount importance of adhering to established procedures and standards in the execution of public works projects. This analysis transcends the specifics of a single project, offering a broader, more profound lesson on the intricate balance required in public sector project management. It emphasizes that, despite the often pressing nature of time constraints and the looming risk of losing funding, the adherence to legal and regulatory frameworks is not merely a bureaucratic formality but a fundamental cornerstone ensuring the integrity, quality, safety, and ultimate success of such projects.

The consequences of deviating from these established norms, as vividly demonstrated in this case, extend beyond immediate project setbacks. They encompass broader implications for public trust, the ethical stewardship of public resources, and the safeguarding of community welfare. This case study reinforces the notion that compliance with legal and regulatory standards is not just a legal obligation but also a moral imperative, especially in projects that impact public spaces and community lives.

Furthermore, this case serves as a reminder to project managers, policymakers, and stakeholders in the public works sector of the critical need for a disciplined, transparent, and accountable approach to project planning and execution. It underscores the value of rigorous external oversight and the indispensable role of institutions like ANAC in upholding the highest standards of integrity and compliance in public works.

In conclusion, the School Complex Renovation Project, with its challenges and outcomes, stands as a testament to the enduring principle that in the realm of public works, the pursuit of expediency must never overshadow the commitment to legal compliance, ethical conduct, and the overarching responsibility to serve the public good with diligence, foresight, and unwavering dedication to quality and safety.

5.2. Design Phase Delays in Italian Public Procurement: A Pre-2020 Regional Analysis [18]

The design phase in public works procurement is a critical stage that significantly influences the timeline and efficiency of infrastructure development. This phase is typically divided into two distinct parts: the "pure" design phase and the design-tender "gap" phase. The "pure" design phase is where the conceptual, preliminary, and detailed plans of a project are meticulously drafted and approved. This stage is foundational, as it sets the parameters and scope of the project, detailing the architectural, engineering, and environmental considerations that will guide the subsequent construction work.

Following the completion of the "pure" design phase, the design-tender "gap" phase commences. This phase is characterized by a series of administrative tasks that are essential for transitioning from the design to the tendering process. These tasks include obtaining the necessary authorizations, finalizing project specifications, and preparing the tender documents

[18] Public works phases that were completed by the end of 2020.

that will allow the project to be bid on by potential contractors. The efficiency and duration of this phase are crucial, as any delays can have a cascading effect on the project timeline.

An analysis of the duration of these phases reveals a stark regional disparity within Italy. In the northern regions, the "pure" design phase is completed in about 180 days on average, whereas in the southern regions, it extends to around 220 days. The gap widens further during the design-tender "gap" phase, where southern regions take nearly twice as long as their northern counterparts. This suggests a more cumbersome administrative process in the south, which could be a reflection of various systemic issues, such as bureaucratic hurdles or regional differences in interpreting and applying regulations.

The duration of the design phase also varies with the size of the contract and the type of procuring agency involved. Smaller contracts, particularly those under 1 million euros, exhibit a more pronounced north-south divide in design duration. Larger and more complex projects, often managed by central government agencies, tend to have longer design phases. However, the regional disparities in design duration are more significant for these central government projects, indicating that the scale and complexity of a project can exacerbate regional inefficiencies.

When examining the factors that contribute to these regional differences, observable characteristics of the tenders play a significant role. These include the size and complexity of the project, the experience of the procuring agency, and the specific requirements of the tender. A regression analysis suggests that once these characteristics are accounted for, the duration gap between the north and south decreases markedly. However, the administrative "gap" phase remains a significant factor in the overall difference, underscoring the need for improvements in administrative processes, particularly in the south.

Interestingly, administrative efficiency does not appear to be a decisive factor in explaining the north-south divide in the "pure" design phase. However, there is notable heterogeneity in the administrative sub-phase, where southern regions are at a clear disadvantage. This points to the importance of internal features of the procuring agency, such as the composition and experience of the workforce, in influencing the duration of design activities.

In conclusion, the design phase is a complex and multifaceted stage in public works procurement that requires careful management to ensure timely project delivery. The regional disparities observed in Italy highlight the need for targeted interventions to streamline administrative processes and enhance the efficiency of the design phase, particularly in the

southern regions where delays are more pronounced. These observations are drawn from the comprehensive analysis presented in the Bank of Italy's Occasional Paper titled "*The Implementation of Public Works in Italy: Institutional Features and Regional Characteristics*[19]," which serves as a pivotal source for understanding the pre-2020 state of public procurement design phases in Italy. By addressing these issues, it is possible to reduce the overall duration of public works projects, leading to more efficient infrastructure development and better utilization of public resources.

5.3. Unraveling the Complexities of Expo 2015 in Milan: A Comprehensive Analysis

Expo 2015 in Milan was a monumental event, aiming to showcase the pinnacle of innovation, culture, and technology from around the world. Spanning six months, the event brought together over 140 participating countries, each presenting their unique pavilions and ideas centered around the theme "Feeding the Planet, Energy for Life." However, the event was not without its challenges, particularly in terms of design issues, which subsequently led to a series of consequences that marred its execution and impact.

Design Issues: The initial phase of Expo 2015 was fraught with delays in design and planning, setting a tone of urgency that permeated throughout the project. The complexity and ambition embedded in the architectural designs of the pavilions meant that more time was required for meticulous planning and revisions. However, bureaucratic challenges, funding issues, and the need for coordination among various stakeholders led to significant delays. These challenges, coupled with environmental and legal hurdles, resulted in a rushed construction schedule, raising concerns about the readiness of the infrastructure and the quality of the constructions.

One of the critical aspects that exacerbated the design issues was the public contract system. The contracts for the design and construction of the pavilions and infrastructure were subject to public procurement processes, which are often lengthy and complex. The need for transparency and fairness in awarding contracts led to additional delays, as every aspect of the design and construction had to be meticulously documented and reviewed. This process, while necessary to ensure accountability and prevent corruption, added another layer of complexity to the project, further contributing to the delays and rushed construction schedule.

[19] Baltrunaite, A., Orlando, T., & Rovigatti, G. (2021). "The implementation of public works in Italy: Institutional features and regional characteristics." Questioni di Economia e Finanza (Occasional Papers), No. 659, Banca d'Italia Eurosistema, December 2021.

Consequences: The rushed construction schedule had a domino effect, leading to a series of consequences that affected the event's execution and reputation. Concerns about infrastructure readiness loomed large, with doubts about whether the event's facilities would be up to the mark for the grand opening. The event was also plagued by scandal and corruption, with arrests of senior managers and politicians, casting a shadow of doubt over the integrity of the event's organization. Cost overruns became a significant issue, with construction companies incurring additional costs and requesting more money than initially agreed upon. This financial strain was further exacerbated by the need for large-scale security operations to counter the thousands of anti-globalisation and environmentalist protesters who took to the streets, viewing the expo as a capitalist symbol of mass waste and corruption.

Navigating the Storm: Unraveling the Design Stage Dilemmas of Expo 2015 in Milan

During the Executive Design phase, the project was rocked by a series of corruption scandals involving public officials and business entrepreneurs. These scandals centered on the manipulation of tender processes and the illegal awarding of contracts, which brought to light significant ethical and legal violations.

As a direct consequence of these scandals, along with the ensuing judicial investigations, the project suffered from considerable delays. These delays were not just minor setbacks; they led to substantial cost overruns, straining the project's budget and resources. In an effort to make up for lost time and to adhere to the original deadlines, there was a push to expedite the construction work. This rush to completion, however, brought up serious concerns regarding the quality of the construction and the safety standards for future visitors, suggesting that the integrity of the build could be compromised.

The impact of these issues reverberated through the earlier stages of the project as well. The Preliminary Design phase, known as 'Progetto Preliminare,' which had been completed seemingly without incident, was later overshadowed by the corruption scandals. The integrity of this phase was called into question, as the later issues cast doubt on the entire design process up to that point.

Furthermore, the Final Design phase, or 'Progetto Definitivo,' which had its technical details and cost estimates already set, was not spared from scrutiny. The problems that arose during the Executive Design phase cast a long shadow, leading to skepticism about the reliability and thoroughness of the previous phases. This created a domino effect of doubt, affecting the

perceived accuracy and trustworthiness of the entire project from its conception to its near completion.

In the article titled "The national legislator insists on strengthening transparency in procurement," [20]published on 15/07/2014 under the categories AMMINISTRATIVO and GIUSTIZIA, significant measures have been highlighted to address the issues of transparency and integrity in procurement and construction processes, particularly in relation to Expo 2015.

The establishment of a Special Operational Unit for Expo 2015 [21]marks a pivotal move towards ensuring that all procedures associated with the realization of the works are executed with the highest level of correctness and transparency. This development is crucial, as it directly impacts the design levels, necessitating a stricter adherence to quality and regulatory standards. Designers are now compelled to maintain a higher standard of work, ensuring that their designs are not just of superior quality but also in complete alignment with the prevailing regulations.

Simultaneously, the process for handling variations during the construction phase has been meticulously outlined. Any changes arising due to unforeseen circumstances, or the introduction of new materials and technologies are required to be submitted to the National Anti-Corruption Authority for review and approval. This additional layer of scrutiny ensures that all modifications made during the construction phase are justified, adhere to ethical and legal standards, and are absolutely necessary. Consequently, design levels are subjected to a more rigorous examination, demanding a heightened level of precision and awareness from designers regarding the potential implications of their decisions.

These measures collectively aim to fortify public trust in large infrastructural projects, ensuring their completion with a steadfast commitment to integrity and transparency. Nevertheless, they also impose a substantial responsibility on the design levels. Designers are now required to navigate a more intricate regulatory landscape, ensuring that their designs satisfy both the functional and aesthetic demands of the project while concurrently adhering to the stringent standards mandated by the anti-corruption measures. This increased level of scrutiny has the potential to lead to delays and additional costs, as designers might find themselves in a position where they need to reevaluate and modify their plans to comply with these new requirements.

[20] "Il legislatore nazionale insiste sul rafforzamento della trasparenza negli appalti"
[21] "Special Operational Unit for Expo 2015"

While these measures are indispensable for upholding integrity and transparency in large-scale projects, they also underscore the necessity for a judicious balance between regulatory oversight and the seamless progression of the design and construction processes.

Charting a Transparent Future: Proactive Strategies to Avert Expo 2015-like Challenge

The challenges and issues that marred the Expo 2015 in Milan serve as a stark reminder of the importance of transparency, accountability, and stringent oversight in large-scale projects. To prevent the recurrence of such problems, a comprehensive and proactive approach is essential. Outlining key strategies that can be implemented to foster a culture of integrity and ensure the smooth execution of major events and projects.

1. Strengthening Transparency:
    - Open Bidding Process: Guarantee transparency by conducting all tenders and contracts through an open bidding process, accessible to the public.
    - Clear Criteria for Selection: Define and publicize explicit criteria for the selection of contractors and suppliers, ensuring decisions are merit-based.
2. Enhancing Accountability:
    - Robust Auditing: Employ rigorous auditing processes to continuously review the financial aspects and progress of the project.
    - Whistleblower Protection: Enact strong laws to protect whistleblowers, encouraging the reporting of corruption and misconduct.
3. Implementing Strict Oversight:
    - Independent Oversight Body: Establish an independent body with the authority to monitor the project from inception to completion.
    - Regular Reporting: Mandate regular reporting from all involved parties to promptly identify and address any deviations from the plan.
4. Fostering a Culture of Integrity:
    - Training and Awareness: Conduct training and awareness programs for all stakeholders, emphasizing the importance of ethical behavior.

- Code of Conduct: Implement a stringent code of conduct, outlining expected behaviors and consequences for misconduct.

5. Legal and Regulatory Framework:
    - Strengthening Laws: Enhance laws related to public procurement and corruption, ensuring severe penalties for misconduct.
    - Swift Legal Action: Establish mechanisms for quick legal action against entities involved in corrupt practices.
6. Leveraging Technology:
    - Digital Platforms: Utilize digital platforms for bid submission and evaluation, ensuring fairness and reducing manipulation risks.
    - Blockchain for Transparency: Explore blockchain technology to create a transparent and immutable record of all project-related transactions and decisions.
7. Engaging the Public:
    - Public Oversight: Encourage public participation in project monitoring.
    - Feedback Mechanisms: Establish channels for public feedback and concerns, ensuring direct communication with oversight bodies.

Impact on Expected GDP Increase and Cost Overruns

The financial implications of the design issues and subsequent consequences were staggering. The total expenditure for Expo 2015 escalated to around €13 billion, including the costs of building new transport infrastructure. The cost overruns in the construction process were evident, with several construction companies incurring additional costs and requesting more money than initially agreed upon. Despite officials' optimism about the event contributing to an increase in Italian GDP by 10-14 billion euros, the financial strain and controversy surrounding the event raised questions about the actual economic benefits and the long-term impact on Italy's economy.

Revolutionizing Project Development: The Impact of Simplified Design Levels on Mega-Events like Expo 2015

Regarding the design levels, the third source mentions that the new Code has simplified the design process, reducing it to two phases: the "technical-economic feasibility project" and the "executive project," eliminating the "final project" phase. This simplification aims to accelerate the process, especially for complex works that require in-depth examination before reaching the executive level. If the new design levels and simplified process of the Legislative Decree No. 36 of 31 March 2023 had been applied to Expo 2015, it could potentially have resulted in a more streamlined and efficient project development, possibly mitigating some of the issues related to delays, corruption, and project management. However, without explicit details on how these new regulations would have been implemented in the context of Expo 2015, it's challenging to definitively say whether the result would have been significantly better.

Expo 2015 in Milan was a testament to the challenges and complexities inherent in organizing large-scale international events. While the event showcased the innovation and cultural richness of participating countries, the design issues and their subsequent consequences highlighted the need for meticulous planning, transparent governance, and careful resource allocation. The involvement of public contracts added another layer of complexity to the project, emphasizing the need for a balanced approach to ensure accountability without compromising efficiency. The financial strain and the questions raised about the event's integrity and impact serve as a reminder of the delicate balance required to ensure the success and positive legacy of such grand endeavors.

5.4. Navigating the Tides: A Comprehensive Analysis of Venice's MOSE Project

The MOSE (Modulo Sperimentale Elettromeccanico) project in Venice stands as one of the most ambitious and complex engineering endeavors of the 21st century, aimed at safeguarding the iconic city and its millennia-old heritage from the relentless threat of flooding and rising sea levels. Spanning over two decades of planning, design, and construction, the project sought to address the acute challenges posed by acqua alta, or high water, a phenomenon that has increasingly plagued Venice due to a combination of subsiding foundations, rising sea levels, and tidal fluctuations.

Initiated in 2003, the MOSE project encompasses a series of movable barriers strategically positioned at the three inlets of the Venice Lagoon, namely Lido, Malamocco, and Chioggia. These barriers are designed to temporarily isolate the lagoon from the Adriatic Sea during high tide events, thereby preventing floodwaters from inundating the city's streets and squares. The

project represents a monumental feat of engineering, requiring unparalleled precision, innovation, and resilience in its design and execution.

However, the journey of bringing MOSE to fruition has been anything but smooth. The project has been marred by a series of challenges, ranging from design complexities and technical difficulties to financial overruns and corruption scandals. In this article, we delve into the intricate tapestry of the MOSE project, unraveling the layers of design challenges, exploring the consequences of these issues, and reflecting on the lessons learned from this engineering marvel.

Design Challenges and Complexities

Continuous Changes in Design Plans:

The MOSE project was characterized by continuous changes in its design plans, a factor that significantly contributed to the delays and complexities of the project. The initial designs underwent numerous revisions, as engineers and planners grappled with the unprecedented challenges of creating a movable barrier system capable of protecting an entire city from flooding. These constant modifications not only extended the project's timeline but also led to a surge in costs, as resources were expended to accommodate the evolving plans.

Underestimation of Costs and Technical Difficulties:

From the outset, the MOSE project was marked by a gross underestimation of both the costs and the technical difficulties involved. The unique geological conditions of the Venice Lagoon, coupled with the need to integrate the barriers seamlessly with the existing urban and maritime infrastructure, presented formidable engineering challenges. The initial cost projections failed to adequately account for these complexities, resulting in budget overruns that would later become a central point of contention and scrutiny.

Consequences of Design Issues:

The design issues had far-reaching consequences on the MOSE project, manifesting in significant delays, financial strain, and a tarnished reputation. The delays meant that the city remained vulnerable to flooding for a longer period than anticipated, while the financial overruns placed an additional burden on public funds. The project's challenges also became a focal point of public discourse, with questions being raised about the efficacy of the planning and decision-making processes.

Design Issues Across Different Phases:

The design issues that plagued the MOSE project were not confined to a single phase; they permeated both the preliminary and final design stages.

Preliminary Design Phase:

In the preliminary design phase, there was a clear underestimation of the project's complexities and costs. The plans developed during this stage laid the groundwork for the project, but they were not robust enough to accommodate the unforeseen challenges that would later arise. The lack of a comprehensive risk assessment and contingency planning during this phase set the stage for the difficulties that would follow.

Final Design Phase:

The issues from the preliminary design phase spilled over into the final design phase, where the project's plans were supposed to be finalized and set in motion. The continuous changes in design plans and the underestimation of technical difficulties became major stumbling blocks, leading to further delays and cost overruns. The need for constant revisions and adjustments during this phase underscored the project's lack of preparedness and the inadequacy of the initial planning.

In conclusion, the MOSE project's journey from conception to completion was fraught with design challenges that spanned across its various phases. The continuous changes in design plans, the underestimation of costs and technical difficulties, and the far-reaching consequences of these issues highlight the need for meticulous planning, robust risk assessment, and transparent governance in large-scale infrastructure projects. The lessons learned from the MOSE project serve as a valuable guide for future endeavors, emphasizing the importance of preparedness, resilience, and accountability in the face of complexity and uncertainty.

The Ripple Effects: Understanding the Consequences of Design Challenges in the MOSE Project

The MOSE project, while ultimately successful in its primary goal of protecting Venice from flooding, was not without its share of challenges and setbacks. The design issues that permeated through the project's development had profound consequences, affecting not just the project's timeline and budget, but also its reputation and the public's trust.

Prolonged Vulnerability:

One of the most immediate consequences of the design challenges was the prolonged period during which Venice remained vulnerable to flooding. The delays in the project's completion meant that the city had to endure additional years of risk, with residents and businesses bearing the brunt of the acqua alta. This prolonged vulnerability also put a strain on the existing measures in place to mitigate flooding, further exacerbating the situation.

Financial Strain and Budget Overruns:

The continuous changes in design plans and the underestimation of technical difficulties translated into significant financial strain. The project's budget ballooned, with costs far exceeding the initial estimates. This led to budget overruns, requiring additional funding and resources to be diverted to the project. The financial implications extended beyond the project itself, impacting the city's economy and the allocation of public funds.

Erosion of Public Trust:

The visible challenges and setbacks of the MOSE project, coupled with the financial overruns, led to an erosion of public trust. Questions were raised about the project's management, the transparency of the decision-making process, and the accountability of those involved. The project became a focal point of public discourse and criticism, with many expressing skepticism about its viability and the competence of those at the helm.

Reputational Damage:

The design challenges and the subsequent consequences also dealt a blow to the project's reputation, both nationally and internationally. The MOSE project was touted as a groundbreaking solution to one of the world's most unique and pressing environmental challenges. However, the issues that unfolded painted a different picture, one of complexity, mismanagement, and unpreparedness. This reputational damage extended to the various entities involved in the project, from the government bodies to the contractors and engineers.

Legal and Ethical Repercussions:

The project's challenges also had legal and ethical repercussions, with investigations being launched into the alleged mismanagement and corruption associated with the MOSE project. These investigations brought to light a web of unethical practices, leading to legal actions and calls for accountability.

Navigating the Aftermath: Lessons Learned and the Path Forward

As the dust settles on the MOSE project, the focus shifts to understanding the lessons learned and navigating the path forward. The project's journey underscores the importance of robust planning, transparent governance, and accountability in large-scale infrastructure projects. It highlights the need for resilience in the face of complexity and uncertainty, and the critical role of public trust in the success of such endeavors.

The MOSE project, despite its challenges, stands as a testament to human ingenuity and determination. It serves as a valuable case study for future projects, offering insights and lessons that can inform and guide the development of resilient and sustainable solutions to the world's most pressing environmental challenges.

Proactive Measures: Strategies to Prevent Future Design Challenges

The MOSE project's journey, laden with design challenges and their subsequent consequences, serves as a crucial learning opportunity for future large-scale infrastructure initiatives. By adopting proactive measures and strategic planning, it is possible to mitigate the risks and prevent similar issues from arising in future projects. Below are key strategies that could be instrumental in achieving this:

1. Comprehensive and Realistic Planning:

- **Accurate Cost Estimations**: Ensuring thorough and realistic cost estimations from the outset can set a strong foundation, helping to prevent budget overruns.
- **Risk Assessment**: Conducting comprehensive risk assessments can identify potential challenges early on, allowing for the development of effective mitigation strategies.

2. Robust Design Review Process:

- **Peer Review**: Implementing a peer review process, where external experts evaluate the project's design and plans, can provide valuable insights and identify potential flaws.
- **Iterative Design Process**: Encouraging an iterative design process enables continuous improvements and adjustments, ensuring that the project evolves in line with the latest information and best practices.

3. Effective Stakeholder Communication:

- **Transparent Communication**: Maintaining transparent and open communication among all stakeholders fosters collaboration and ensures that everyone is on the same page.
- **Regular Updates**: Providing regular updates on the project's progress helps in managing expectations and ensures that any challenges are addressed promptly.

4. Adequate Oversight and Governance:

- **Independent Oversight**: Establishing independent oversight bodies to monitor the project's progress and adherence to design standards and budgetary constraints ensures accountability.
- **Accountability Mechanisms**: Implementing strong accountability mechanisms holds all parties responsible for their roles in the project, fostering a culture of responsibility and integrity.

5. Building Flexibility into the Project:

- **Adaptive Design**: Incorporating flexibility into the project's design allows for adaptability to changing conditions and unforeseen challenges.
- **Contingency Planning**: Developing contingency plans ensures that the project is prepared to handle potential issues that could arise during implementation.

6. Investing in Skilled Personnel:

- **Expertise in Project Management**: Ensuring that the project management team possesses the necessary expertise and experience is crucial for handling a project of such scale and complexity.
- **Training and Development**: Investing in training and development enhances the skills of all personnel involved, contributing to the project's overall success.

7. Learning from Past Projects:

- **Post-Project Evaluation**: Conducting thorough post-project evaluations helps in understanding what worked well and what didn't, providing valuable insights for future projects.

- **Knowledge Sharing**: Sharing lessons learned from past projects informs and improves future infrastructure initiatives, contributing to a culture of continuous learning and improvement.

Reflecting on Evolution: The Impact of Updated Design Levels on Project Management

In the wake of the MOSE project and other large-scale infrastructure endeavors, there has been a significant shift in the approach to project management and design within Italy. The introduction of new decrees outlining updated design levels marks a pivotal change, aiming to enhance the planning, execution, and success of future projects.

Feasibility Study (Studio di Fattibilità):

The Feasibility Study stage now plays a crucial role in the early assessment of a project, focusing on its viability and strategic alignment. This stage involves a thorough analysis of the project's objectives, its alignment with broader strategic goals, and an initial evaluation of potential challenges and risks.

- Potential Impact on MOSE: Had this level of early assessment and strategic alignment been implemented during the MOSE project, it could have provided a clearer understanding of the project's complexities and potential pitfalls right from the outset. This might have led to more realistic cost estimations, better risk management, and a stronger foundation for the subsequent design phases.

Detailed Design (Progetto Definitivo):

The Detailed Design stage now demands comprehensive project planning, encompassing technical specifications, cost estimates, and a robust plan for execution.

- Potential Impact on MOSE: A more comprehensive and detailed design phase for the MOSE project could have addressed many of the issues that later became significant challenges. With a focus on developing detailed technical specifications and accurate cost estimates, the project team would have been better equipped to manage the complexities of the project, potentially preventing the delays and cost overruns that were experienced.

The Way Forward: Enhancing Project Success through Structured Design Levels

The introduction of these updated design levels represents a proactive step towards enhancing the success of future infrastructure projects. By establishing clear and structured phases of

project development, from feasibility to detailed design, there is now a framework in place that encourages thorough planning, risk assessment, and strategic alignment.

- Enhanced Planning: The emphasis on early assessment and comprehensive planning ensures that potential issues are identified and addressed before they can escalate into major challenges.
- Risk Management: With a structured approach to design, there is a greater focus on risk management, ensuring that potential challenges are anticipated, and mitigation strategies are in place.
- Strategic Alignment: Ensuring that projects are in alignment with broader strategic goals from the outset enhances their relevance and viability, contributing to their overall success.

Conclusion: Navigating the Waters of Complexity and Innovation

The MOSE project in Venice stands as a testament to human ingenuity, resilience, and the capacity to innovate in the face of seemingly insurmountable challenges. Designed to protect the iconic city from the relentless threat of flooding, the project has navigated a tumultuous journey, marked by design complexities, financial overruns, and a series of unforeseen challenges.

From the continuous changes in design plans to the underestimation of costs and technical difficulties, the MOSE project has faced a myriad of issues that have tested the mettle of all those involved. The prolonged vulnerability of Venice, the financial strain on public funds, and the erosion of public trust have been significant consequences of these challenges, highlighting the need for meticulous planning, robust risk management, and transparent governance in large-scale infrastructure projects.

The introduction of updated design levels, focusing on feasibility studies and detailed design, represents a positive step towards enhancing the success of future projects. Had these measures been in place during the MOSE project, it is conceivable that many of the challenges faced could have been mitigated, leading to a smoother and more efficient project implementation.

As we reflect on the journey of the MOSE project, it is clear that the lessons learned are invaluable for future endeavors. The project's budget overruns, with costs ballooning to several

billion euros above initial estimates, serve as a stark reminder of the financial implications of design challenges and the importance of accurate cost estimations and comprehensive planning.

In conclusion, the MOSE project, with its complexities and challenges, provides a rich case study for engineers, planners, and policymakers alike. It underscores the importance of resilience, innovation, and accountability in the face of adversity, and highlights the critical role of structured design levels in ensuring the success of large-scale infrastructure projects. As we move forward, the lessons learned from the MOSE project will undoubtedly inform and guide future initiatives, contributing to a legacy of innovation, resilience, and success in the realm of infrastructure development.

6. International Perspective

6.1 Comparison with EU Best Practices

Directive 2014/14/EU

Directive as a Foundation: Building on the Base

1. Historical Context and Origin of the Directive:

Directive 2014/24/EU: This directive was established to create a unified framework for public procurement within the European Union. Its primary objectives were to promote efficiency, transparency, and innovation in public procurement processes. By setting out these guidelines, the Directive aimed to ensure that public funds were used effectively and that businesses, regardless of their size, had equal access to public contracts.

2. Incorporation of Directive Principles into the Italian Code:

Transparency and Competition: One of the core principles of the Directive is the promotion of transparency and competition in public procurement. The Italian code, influenced by this, has stringent guidelines to ensure that procurement processes are open, fair, and competitive.

Innovation: The Directive emphasizes the importance of innovative solutions in public procurement. The Italian code, building on this, promotes the use of digital tools in the design phase, reflecting a modern and innovative approach to public procurement.

Equal Treatment: The Directive stresses the importance of non-discrimination and equal treatment. The Italian code, in line with this, ensures that all businesses, regardless of their size or origin, have equal opportunities to participate in public contracts.

3. Italian Specificities Derived from the Directive:

Design Levels in Public Works: While the Directive provides a broad framework, the Italian code delves deeper into the specifics of design levels, emphasizing the importance of a comprehensive approach to design in public procurement.

Digital Emphasis: Building on the Directive's push for innovation, the Italian code places a strong emphasis on digitalization, especially in the design and execution phases of public procurement.

Environmental and Social Considerations: Both the Directive and the Italian code promote a holistic approach to public procurement. However, the Italian legislation might have specific guidelines tailored to the country's unique environmental and social needs.

4. The Synergy between the Directive and the Italian Code:

Complementary Nature: Rather than viewing the Italian code as a separate entity, it can be seen as a complement to the Directive. While the Directive provides the foundational principles, the Italian code offers the detailed guidelines and procedures tailored to Italy's specific context.

Enhancements and Additions: The Italian code, while rooted in the principles of the Directive, also introduces enhancements and additions that reflect Italy's unique challenges and opportunities in public procurement.

The relationship between Directive 2014/24/EU and the Italian "Decreto legislativo 31 Marzo 2023 n. 36" is akin to that of a foundation and the structure built upon it. The Directive provides the essential principles and guidelines, while the Italian code, influenced by these principles, offers a detailed and tailored approach to public procurement in Italy. This synergy ensures that Italy's public procurement processes are in line with European standards while also addressing the country's unique needs and challenges.

Tracing the Influence: From European Directive to Italian Legislation

1. The Genesis of Directive 2014/24/EU:

Origins: The Directive 2014/24/EU was established to streamline and unify public procurement processes across the European Union. It aimed to foster a competitive, transparent, and non-discriminatory environment for public contracts.

Key Principles: The Directive emphasized principles such as transparency, equal treatment, non-discrimination, and the promotion of innovative solutions. It also highlighted the importance of environmental and social considerations in public procurement.

2. The Italian Response: Adoption and Adaptation:

Initial Reception: Upon the introduction of Directive 2014/24/EU, member states, including Italy, were required to incorporate its principles into their national laws. Italy responded by drafting and eventually enacting the "Decreto legislativo 31 Marzo 2023 n. 36."

Tailored Approach: While the Italian code was influenced by the Directive, it was tailored to fit the specific needs, challenges, and opportunities of the Italian public procurement landscape.

3. Key Areas of Influence:

Transparency and Openness: Both the Directive and the Italian code emphasize the importance of transparent and open procurement processes. The Italian legislation, influenced by the Directive, has stringent guidelines to ensure fairness and openness in public contracts.

Promotion of Innovation: The Directive's push for innovative solutions in public procurement is evident in the Italian code's emphasis on digital tools, especially in the design phase.

Environmental and Social Considerations: The Directive's focus on holistic public procurement, which considers environmental and social factors, is mirrored in the Italian code's guidelines.

4. Beyond the Directive: Unique Italian Additions:

Design Levels in Public Works: One of the standout features of the Italian code is its detailed breakdown of design levels in public procurement. This emphasis on design, while aligning with the Directive's push for innovation, is a unique addition that reflects Italy's focus on comprehensive project planning.

Digital Emphasis: The Italian code's strong emphasis on digitalization in the design and execution phases showcases how Italy has taken the Directive's principles and adapted them to a modern context.

5. The Evolutionary Path:

Learning and Adapting: As the Italian public procurement landscape evolved, the "Decreto legislativo 31 Marzo 2023 n. 36" showcased how Italy learned from the Directive and adapted its principles to its unique context.

Feedback Loop: The relationship between the Directive and the Italian code is dynamic. As Italy implemented the Directive's principles, it likely provided feedback to the European Union, contributing to the ongoing evolution of public procurement standards in the region.

The influence of Directive 2014/24/EU on the Italian "Decreto legislativo 31 Marzo 2023 n. 36" is a testament to the dynamic interplay between European guidelines and national legislations. While the Directive provided the foundational principles, Italy's response showcased a blend of adoption, adaptation, and innovation, resulting in a tailored approach to public procurement that meets the country's specific needs while aligning with European standards.

6.2 Comparisons with other countries

In the domain of public procurement, it is crucial to possess knowledge and comprehension of worldwide best practices and methodologies. Various nations have implemented diverse directives and rules, each of which is a reflection of their own issues and priorities. This section undertakes a comparative analysis, elucidating the extent to which Italy's procurement methods conform to or diverge from those of other countries. In this study, we will examine and analyze the procurement frameworks of eight European countries, namely Germany, France, the United Kingdom, Spain, Sweden, Austria, the Netherlands, and Belgium.

Germany

In Germany, the design and procurement processes, especially in the construction and engineering sectors, are governed by specific regulations and guidelines. Two of the primary documents that provide insight into these processes are the HOAI (Honorarordnung für Architekten und Ingenieure) and the VgV (Vergabeverordnung). Let's delve into the concept of design levels in the context of these regulations:

Design Levels in German Procurement:

1. **Leistungsbeschreibung [22](Performance Description)**:

   - The public contracting authority defines the performance description in a manner that ensures equal access for all companies to the procurement procedure.

   - The performance description should not unjustifiably hinder the opening of the national procurement market to competition.

   - The characteristics of the subject matter of the contract are described in the performance description. This can be in the form of performance or functional requirements or a description of the task to be solved. The description should be as precise as possible to provide a clear picture of the subject matter of the contract.

2. **Technical Specifications**:[23]

   - Technical specifications in the context of supply or service contracts can refer to a document specifying characteristics of a product or service. These characteristics can include quality levels, environmental and climate performance levels, design for all (including accessibility for people with disabilities), conformity assessment, performance, usability, safety, dimensions, and more.

   - The technical specifications can also refer to the product's sales name, terminology, symbols, testing and test methods, packaging, labeling, user instructions, and production processes and methods at any stage of the product or service's lifecycle.

3. **Planungswettbewerbe (Planning Competitions)**[24]:

   - Planning competitions ensure the selection of the best planning solution and simultaneously serve as an effective tool to ensure planning quality and promote architectural culture.

[22] § 7 and § 78 of the VgV
[23] § 31 Absatz 2 of the VgV (Anlage 1)
[24] § 78 and § 79 of the VgV

- They aim to obtain alternative proposals for planning, especially in the fields of spatial planning, urban planning, and construction. These competitions can be organized before or without procurement procedures.

In essence, the German design levels in procurement reflect a balance between fostering innovation and ensuring quality. They highlight the country's commitment to excellence in design, underpinned by a robust regulatory framework.

France

France, a nation renowned for its meticulous administrative systems and commitment to transparency, has cultivated a procurement framework that stands as a paragon of clarity and fairness. The French procurement design levels, as detailed in regulations such as the "Décret n° 2016-360", are a manifestation of the country's dedication to ensuring an equitable and competitive landscape for both public and private sector procurements. Rooted deeply in the principles of the French Republic, these design levels not only serve as procedural guidelines but also embody the nation's broader objectives of sustainable economic growth, social responsibility, and environmental stewardship. As we embark on an exploration of France's procurement design levels, it's pivotal to recognize that these aren't mere administrative steps. Instead, they encapsulate France's holistic approach to procurement, emphasizing transparency, equal treatment, and strategic alignment with national priorities. Whether you're a vendor navigating the intricacies of French public contracts or a scholar keen to understand the nuances of the nation's procurement system, France's design levels provide a comprehensive overview of its strategic approach to public spending and its broader socio-economic implications.

Design Levels in France Procurement

1. **General Framework**[25]:

- **Regulatory Context**: The procurement process in France is governed by a set of regulations and decrees. One of the primary documents is the "Décret n° 2016-360" which provides a detailed framework for public procurement.
- **Objective**: The main objective of these regulations is to ensure transparency, competition, and equal treatment of all participants in the procurement process.

[25] JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE

2. **Design and Execution**[26]:

- **Design Phase**: Before the actual procurement process begins, there's a design phase. This involves defining the needs, estimating the budget, and determining the procurement procedure to be used.
- **Execution Phase**: This is the actual implementation of the procurement process. It involves publishing the notice, receiving bids, evaluating them, and awarding the contract.

3. **Different Procurement Procedures**:

- **Open Procedure**: This is a one-phase procedure where any interested party can submit a bid.
- **Restricted Procedure**: In this two-phase procedure, the first phase involves selecting candidates based on certain criteria. Only those selected can submit bids in the second phase.
- **Negotiated Procedure**: This procedure allows the contracting authority to negotiate terms with one or more providers.
- **Competitive Dialogue**: Used for complex contracts, this procedure involves a dialogue phase where the contracting authority discusses solutions with candidates before they submit their final bids.

4. **Criteria for Awarding Contracts**[27]:

- **Primary Criterion**: The main criterion for awarding contracts is the "most economically advantageous tender". This is determined based on price, cost, and qualitative criteria.
- **Other Considerations**: Other factors like environmental and social considerations can also play a role in the decision-making process.

5. **Transparency and Equal Treatment**:

[26] Articles 7 and 9 of “Décret n° 2016-360”
[27] Article 10 of “Décret n° 2016-360”

- **Transparency**: The procurement process is designed to be transparent. This means all decisions, criteria, and procedures are made clear to all participants.
- **Equal Treatment**: All bidders are treated equally. This ensures that no bidder is given an unfair advantage or disadvantage.

6. **Review and Remedies**:

- **Review Mechanism**: If a participant feels that they've been treated unfairly, there's a review mechanism in place. They can challenge the decision, and there are specific procedures for this.
- **Remedies**: If a challenge is upheld, there are remedies available. This could involve revising the decision, awarding damages, or even restarting the procurement process.

In conclusion, the design levels in procurement in France are comprehensive and aim to ensure a fair, transparent, and competitive process. The regulations provide a clear framework, and there are mechanisms in place to address any grievances.

UK

In the realm of public procurement, the United Kingdom stands as a beacon of structured and transparent processes. Central to this reputation is the country's meticulous approach to the design levels of procurement. These design levels, as outlined in the "Public Contracts Regulations 2015," serve as the bedrock upon which public procurement activities are built, ensuring that they are conducted with fairness, transparency, and a keen focus on quality. Before delving into the specifics of these design levels, it's crucial to understand their significance. They not only set the standards for procurement activities but also ensure that public funds are utilized efficiently and that suppliers, regardless of their size or origin, have equal opportunities in the procurement process. With this foundation, let's explore the intricate design levels of UK procurement.

Design Levels in Procurement

The Public Contracts Regulations 2015 provides guidelines on how procurement processes should be designed and executed. While the term "design levels" isn't explicitly mentioned, the regulations touch upon various aspects related to the design and characteristics of procurement. Here's a breakdown:

1. **Technical Specifications**[28]:

   - Technical specifications lay down the characteristics required of works, services, or supplies.

   - In the context of public works contracts, these specifications define any characteristics required of a material, product, or supply to fulfill its intended use by the contracting authority.

   - Such characteristics can include:

     - **Environmental and Climate Performance Levels**: This pertains to how the product or service impacts the environment and its adherence to climate-related standards.

     - **Design for All Requirements**: This includes accessibility for disabled persons, ensuring that products, services, or infrastructure are accessible to everyone, regardless of their physical abilities.

     - **Conformity Assessment, Performance, Safety, and Dimensions**: These are the standards and benchmarks that the product, service, or work must meet.

     - **Quality Assurance, Terminology, Symbols, Testing, and Test Methods**: These are the methods and standards used to assess the quality and performance of the product or service.

     - **Packaging, Marking, and Labelling**: These pertain to how the product is presented, marked, and labeled.

     - **User Instructions and Production Processes**: This relates to how the product should be used and the processes involved in its production.

2. **Principles of Procurement**[29]:

   - Contracting authorities must treat economic operators equally and without discrimination. They should act transparently and proportionately.

[28] Regulation 42 of "Public Contracts Regulations 2015"
[29] Regulation 18 of "Public Contracts Regulations 2015"

- The design of the procurement should not be made with the intention of excluding it from the scope of the regulations or artificially narrowing competition. For instance, competition is considered artificially narrowed if the design is made to unduly favor or disadvantage certain economic operators.

3. **Dynamic Purchasing System**[30]:
    - This is an electronic process and can be divided into categories of products, works, or services based on their characteristics. These characteristics can include the maximum allowable size of subsequent specific contracts or a specific geographic area where they will be performed.
4. **Modification of Contracts**[31]:
    - The regulations also touch upon how contracts can be modified during their term, ensuring that any changes adhere to the original design and intent of the procurement.

The intricate tapestry of procurement design, as delineated in the Public Contracts Regulations 2015, is far more than just a set of rules or aesthetic guidelines. It represents the UK's commitment to excellence, transparency, and fairness in public procurement. By understanding and adhering to these design levels, we ensure that every procurement activity not only meets the highest standards of quality but also respects the principles of equality and open competition. It's a testament to the UK's dedication to creating a procurement environment where quality is paramount, ethics are non-negotiable, and every economic operator, regardless of size or background, has an equal shot at success. In essence, the design levels are more than just standards; they are a reflection of the values and principles that the UK holds dear in its public procurement endeavors.

Spain

In the realm of public procurement, the design levels play a pivotal role in ensuring that contracts not only meet the technical requirements but also align with broader societal, environmental, and economic objectives. Spain, with its rich history and commitment to sustainable and inclusive growth, has intricately woven these principles into its procurement

[30] Regulation 34 of "Public Contracts Regulations 2015"
[31] Regulation 72 of "Public Contracts Regulations 2015"

processes. The country's approach to procurement is a testament to its dedication to creating a system that is transparent, equitable, and forward-thinking. By integrating various design levels, Spain ensures that its public contracts are not just transactions but are, in fact, strategic tools that drive innovation, inclusivity, and sustainability. As we delve deeper into the design levels in procurement in Spain, we'll discover how they serve as a blueprint for achieving a harmonious blend of technical precision and societal value.

Design Levels in Procurement in Spain:

1. Technical Specifications[32]:
    - For Works: Technical specifications in the field of public works contracts refer to the technical requirements that the contracting authority can prescribe, including environmental performance, design requirements, and calculation rules for the works. They also encompass the rules for project design, testing conditions, control and acceptance conditions for the works, and construction techniques. Furthermore, they include other technical conditions that the contracting authority may prescribe concerning finished works and the materials or parts they consist of.
    - For Supplies or Services: In the context of supply or service contracts, technical specifications are defined in a document that outlines the required characteristics of a product or service. Examples include quality levels, environmental and climatic performance levels, and design for all needs (including universal accessibility and universal design or design for all people).
2. Design for All Needs: This concept emphasizes the importance of designing for the broader population, including ensuring universal accessibility. The design should cater to all individuals, ensuring that products, services, or works are accessible and usable by everyone, regardless of their abilities or disabilities.
3. Quality Assurance Procedures: These are procedures that ensure the quality of materials, products, or activities. They consider the social, labor, environmental, and climatic impact of these materials or activities during their production or use.

[32]Article 145 BOE-A-2018-3434

4. Innovation and Originality: In the procurement process, the innovation and originality of the proposed solutions for supplying products, providing services, or executing works are considered.

5. Environmental, Social, and Labor Considerations: Contracting authorities are encouraged to design award criteria that allow for the procurement of high-quality works, supplies, and services. This includes considering qualitative, environmental, social, and innovative aspects related to the contract's subject matter.

6. Quality-Based Criteria: Especially for contracts involving intellectual services like engineering and architecture, quality-related criteria should represent at least 51% of the score assignable in the evaluation of offers.

7. Innovation and Development Considerations[33]: These can be included both in the design of award criteria as qualitative criteria to evaluate the best quality-price ratio or as special execution conditions. Their introduction is contingent upon their relation to the contract's subject matter.

8. Post-Sale Service and Technical Assistance: These are qualitative criteria that can be considered during the procurement process. They include aspects like post-sale service, technical assistance, delivery conditions, delivery date, delivery process, delivery or execution timeframe, and commitments related to spare parts and supply security.

In conclusion, Spain's procurement design levels transcend mere technical specifications. They adopt a holistic perspective, weaving in environmental, social, and labor considerations alongside the intrinsic quality and innovation of products or services. By addressing the wider needs of the population, Spain's procurement strategy stands as a beacon, ensuring alignment with overarching societal aspirations and values.

Sweden

The design levels in public procurement in Sweden are based on a structured framework that ensures transparency, fairness, and adherence to both national and European Union (EU) regulations. Here's a detailed explanation suitable for a lecture session:[34]

[33] General principles of BOE-A-2017-12902
[34] Chapter 1,2,3,4,5,6,10,12,13,14,19 of “LOU”

1. Introduction to Public Procurement in Sweden:

- Public procurement represents a significant market in most countries. In Sweden, procurements are worth approximately 400 million kronor annually.
- The Swedish public procurement is governed by the law (1992:1528) on public procurement (LOU), which is primarily based on EG directives.
- The purpose of the legislation is to create competitive conditions in an open and free market.

2. The Structure of the Law on Public Procurement (LOU):

- The LOU was established to incorporate EG directives, ensuring that Swedish procurement regulations align with prevailing EG law.
- The LOU regulates the procedure in the procurement process, containing provisions that set requirements on advertising, different procurement forms, time limits for procurement, and requirements on how a procurement should conclude.
- The LOU defines various terms such as "contracting entity," "bid," "procurement contract," and "supplier."

3. Design Levels in Procurement:

- **Classical Directives**: Chapters 2, 3, and 5 of the LOU realize the classical directives, which in sequence are the goods, construction, and service directives.
- **Supply Directive**: Chapter 4 of the LOU corresponds to the so-called supply directive, which pertains to the procurement of goods, construction contracts, and services within the supply sectors of water, energy, transport, and telecommunications.
- **Procurement Below Threshold Values**: The LOU was initially designed to regulate procurements above certain threshold values. However, it was later complemented with provisions for procurements below these threshold values. These provisions can be found in Chapter 6 of the LOU and have no counterpart in the EG directives.

4. Relationship Between EG Law and National Law:

- The European Court of Justice has dealt with the issue of what happens when national law conflicts with EG's primary law, such as the EG treaty. Since the LOU is based on

EG directives, it's essential to ensure that national regulations do not conflict with European standards.

5. Principles to Follow in Procurement:

- All bidders and tenderers must be treated equally and fairly, regardless of nationality, bid, or geographical location.
- Public purchasers in an EU member state are obliged to accept certificates and attestations issued in another member state.
- The requirements set by the public purchaser must have a natural connection and be in reasonable proportion to what is being procured.

6. Transparency and Insight:

- The principle of transparency and insight is crucial. It ensures that procurement is predictable and not secretive.
- The right to access public documents is governed by the 2nd chapter of the Freedom of the Press Act (TF) in Sweden.

In conclusion, the design levels in public procurement in Sweden are structured to ensure that the process is transparent, competitive, and adheres to both national and European standards. This framework ensures that all participants are treated fairly and that the procurement process serves the public interest.

Austria

Procurement is the process by which organizations, including governments, purchase goods, services, or works from external sources. In Austria, the procurement process is influenced by both national regulations and European Union directives. Today, we'll delve into the design levels of procurement in Austria, understanding its structure, influences, and key principles.

1. European Union Influence:[35]

[35] RL 2014/23/EU, 2014/24/EU, and 2014/25/EU)

- **Legislative Package (2014):** The EU introduced a legislative package in 2014, which laid a new foundation for community procurement law. This package consists of three directives that replace previous regulations.
- **Key Focus Areas:** The EU's legislative package aimed at:
  - Modernizing the legal framework for awarding contracts.
  - Introducing new procurement procedures.
  - Recognizing new forms of procurement in member states.
  - Emphasizing ecological, social, and innovative aspects in procurement.
  - Mandating electronic execution of procurement procedures.
  - Considering certain exceptions based on the European Court of Justice's jurisprudence.

2. Austrian Adaptation[36]:

- **Total Revision:** Given the extensive changes required by the EU directives, Austria opted for a total revision of its procurement laws rather than individual amendments.
- **Goals of Revision:**
  - Adapt to the newly designed secondary law at the EU level.
  - Modernize procurement in Austria.
  - Maximize regulatory freedom to reduce transaction costs.
  - Maintain legal certainty.

3. Coordination with Federal States (Länder)[37]:

- Austria emphasizes the involvement of its federal states in the preparation of legislative projects related to public procurement. This ensures that the entire nation is on the same page regarding procurement regulations and practices.

4. Adherence to EU Directives[38]:

[36] 1.2 Ausgangslage und Zielsetzung of" Bundesvergabegesetz" 2018 – BVergG 2018
[37] Abstimmung mit den Ländern (2.1 and 2.2) of "Bundesvergabegesetz 2018 – BVergG 2018"
[38] Regelungstechnik und Inhalt (3.2 and 3.2.1 and 3.3) of "Bundesvergabegesetz 2018 – BVergG 2018"

- **Importance of Wording:** Austria places a strong emphasis on adhering to the exact wording of EU directives when implementing them into national law. This ensures that interpretations by the European Court of Justice remain relevant and applicable.
- **Austrian Constitutional Court's View:** The court believes that it's against the principle of equality to only regulate the procurement procedure in the upper threshold area comprehensively. Even in the sub-threshold area, a minimum set of legal procedural guarantees should be provided.

5. Principles of Procurement in the Sub-threshold Area[39]:

- **Jurisprudence of the EuGH:** In the sub-threshold area, the principles of the AEUV and the prohibition of discrimination are emphasized. This includes a commitment to transparency, ensuring that the procurement process is open and clear for all parties involved.

Austria's procurement design levels are a blend of national regulations and European Union directives. The country ensures that its procurement processes are modern, transparent, and in line with European standards, while also considering its unique national context and the views of its federal states.

Netherlands

Public procurement stands as a cornerstone of government administration in the Netherlands, playing an indispensable role in steering the nation's economic and social trajectory. This process encompasses the acquisition of goods, services, and works by public authorities, ranging from government departments to local entities. Given the substantial public funds at stake and the profound implications on businesses and society at large, it is imperative to uphold transparency, efficiency, and value for money.

The intricate nature of procurement activities, coupled with the imperative for fairness and transparency, necessitates a methodical approach. This is precisely where the concept of 'design levels' in procurement becomes pivotal. By meticulously understanding and implementing

[39] Regelungstechnik und Inhalt (3.3.3)

these levels, the Dutch government ensures adherence to legal frameworks and the realization of intended outcomes, thereby enhancing the efficacy of procurement processes.[40]

Design Levels in Procurement in the Netherlands

1. **Strategic Level**[41]:
    - **Purpose**: At this level, the overarching goals and objectives of public procurement are defined. It's about aligning procurement processes with the broader goals of the government or the procuring entity.
    - **Key Elements**:
        - **Policy Formulation**: Establishing policies like sustainable procurement, where the government not only looks at the price but also the environmental and social impacts.
        - **Risk Management**: Identifying potential risks in the procurement process and establishing measures to mitigate them.
        - **Stakeholder Engagement**: Engaging with various stakeholders, including suppliers, internal departments, and the public, to ensure the procurement process is transparent and inclusive.
2. **Tactical Level**:
    - **Purpose**: This level focuses on how the strategies will be implemented. It involves planning and organizing the procurement activities.
    - **Key Elements**:
        - **Market Analysis**: Understanding the market conditions, supplier capabilities, and potential innovations.
        - **Supplier Relationship Management**: Building and maintaining relationships with suppliers to ensure a smooth procurement process.

[40] Articles 1.1-1.5 of "Aanbestedingswet 2012"
[41] Articles 1.6 - 1.10 of "Aanbestedingswet 2012"

- **Contract Management**: Ensuring that contracts are managed effectively, with clear terms and conditions, and that they deliver value for money.

3. **Operational Level**[42]:
   - **Purpose**: This is the execution phase, where the actual procurement activities take place.
   - **Key Elements**:
     - **Tendering Process**: This includes announcing the tender, inviting bids, evaluating bids, and awarding the contract.
     - **Principles of Procurement**: Adhering to the principles laid out in the Aanbestedingswet 2012, such as non-discrimination, equality, transparency, and proportionality.
     - **Contract Execution**: Ensuring that the goods, works, or services are delivered as per the contract terms.
4. **Control and Review Level**[43]:
   - **Purpose**: To ensure that the procurement process is efficient, effective, and compliant with the established policies and regulations.
   - **Key Elements**:
     - **Performance Monitoring**: Tracking the performance of suppliers against the contract terms.
     - **Audit and Compliance**: Ensuring that the procurement process adheres to the rules and regulations, especially those laid out in the Aanbestedingswet 2012.
     - **Feedback Mechanism**: Collecting feedback from various stakeholders to continuously improve the procurement process.

[42] Articles 3.1 - 3.10 of "Aanbestedingswet 2012"
[43] Articles 4.1 - 4.10 of "Aanbestedingswet 2012"

Understanding these design levels is crucial for anyone involved in the procurement process in the Netherlands. It ensures that procurement activities are aligned with the broader goals, are executed efficiently, and are continuously improved based on feedback and performance monitoring.

This structured approach, rooted in the Aanbestedingswet 2012, ensures that the Dutch government's procurement activities are transparent, fair, and deliver value for money, while also considering environmental and social impacts.

Belgium

Belgium, as a member of the European Union, adheres to a structured procurement process that is both influenced by EU directives and its national regulations. This ensures transparency, fairness, and efficiency in the acquisition of goods, services, and works by public entities. The procurement process in Belgium is characterized by distinct design levels, each contributing to a comprehensive and transparent system. Let's delve into these design levels to understand the intricacies of the Belgian procurement system.

Design Levels in Procurement in Belgium:

1. **Strategic Procurement Planning[44]:**
    - Public authorities identify their long-term needs and determine how these can be met through procurement. This involves understanding market trends, assessing the availability of goods and services, and forecasting future requirements.
    - Objectives for the procurement process are set, such as promoting sustainable or local sourcing.
2. **Tendering Process[45]:**
    - Public authorities invite companies to bid for contracts. Tenders are typically advertised publicly to ensure a wide range of companies can apply.

[44] Article 1 of "LOI RELATIVE AUX MARCHES PUBLICS"
[45] Article 2 of "LOI RELATIVE AUX MARCHES PUBLICS"

- The tendering process in Belgium adheres to the principles set out in the European Union's public procurement directives, ensuring a level playing field for companies from all EU member states.

3. **Evaluation and Awarding[46]:**
    - Bids are evaluated based on predefined criteria, which can relate to price, quality, sustainability, or other relevant factors.
    - The contract is awarded to the company that best meets these criteria. While the lowest-priced bid might be a consideration, it's not the sole determining factor.
4. **Contract Management[47]:**
    - After awarding a contract, its execution is monitored to ensure the company delivers as promised. This involves performance tracking, ensuring timely payments, and addressing any disputes or issues.
    - Effective management ensures the public authority receives the agreed-upon goods or services, and companies are held accountable for their performance.
5. **Review and Feedback[48]:**
    - Upon contract completion, the procurement process is reviewed to gather insights for future procurements.
    - Feedback from both the public authority and the company helps identify areas of success and potential improvement.

By understanding these design levels, one can gain a comprehensive view of the procurement landscape in Belgium, ensuring effective participation and management in public contracts.

6.3 Lessons from Other Countries' Procurement Codes (Need to be added)

As we delve into the procurement codes of various European nations, several key lessons emerge that can inform and enhance public procurement practices:

[46] Article 3 of "LOI RELATIVE AUX MARCHES PUBLICS"
[47] Article 4 of "LOI RELATIVE AUX MARCHES PUBLICS"
[48] Article 5 of "LOI RELATIVE AUX MARCHES PUBLICS"

- **Germany**:

    1. **Emphasis on Detailed Specifications**: Germany's procurement processes, especially in construction and engineering, are governed by specific regulations and guidelines. The focus on detailed performance descriptions ensures clarity and precision in public contracts.
    2. **Balancing Technical and Societal Needs**: The German system underscores the importance of not just meeting technical requirements but also aligning with broader societal and environmental objectives.

- **Sweden**:

    1. **Transparency and Fairness**: Sweden's structured framework ensures transparency, fairness, and adherence to both national and EU regulations. The principle of transparency ensures that procurement is predictable and not secretive.
    2. **Inclusion of Modern Techniques**: Sweden's emphasis on digitalization in the design and execution phases showcases the importance of adapting to modern technological advancements.

- **Austria**:

    1. **Adaptation to EU Directives**: Austria's total revision of its procurement laws in response to EU directives highlights the importance of aligning national regulations with broader European standards.
    2. **Modernization and Efficiency**: Austria's approach emphasizes modernizing procurement processes and maximizing regulatory freedom to reduce transaction costs.

- **Netherlands**:

    1. **Strategic Planning**: The Dutch system emphasizes long-term strategic procurement planning, ensuring that public contracts align with broader governmental and societal goals.

2. **Holistic Approach**: The Netherlands focuses on a comprehensive approach that considers environmental, social, and labor impacts, ensuring that procurement processes are aligned with broader societal goals.

- **France**:

1. **Adherence to EU Directives**: France's procurement code is influenced heavily by EU directives, ensuring that the nation's procurement processes are in line with broader European standards.
2. **Focus on Innovation**: France's procurement processes emphasize the importance of innovation, ensuring that public contracts drive technological and societal advancement.

- **United Kingdom**:

1. **Robust Framework**: The UK's Public Contracts Regulations provide a strong foundation for public procurement, emphasizing transparency, fairness, and quality.
2. **Flexibility**: The UK's approach allows for flexibility in procurement processes, ensuring that public contracts can adapt to changing societal and technological needs.

- **Spain**:

1. **Integration of Design Levels**: Spain's approach to procurement integrates various design levels, ensuring that public contracts are strategic tools that drive innovation, inclusivity, and sustainability.
2. **Holistic Consideration**: Spain's design levels in procurement consider not just the technical aspects but also broader societal, environmental, and economic objectives.

- **Belgium**:

1. **Strategic Procurement Planning**: Belgium emphasizes long-term strategic planning in its procurement processes, ensuring that public contracts align with long-term governmental goals.

2. **Adherence to EU Standards**: Belgium's procurement processes adhere closely to EU directives, ensuring fairness and transparency in public contracts.

In conclusion, while each country has its unique approach to public procurement, common threads of transparency, fairness, innovation, and adherence to broader societal goals run through all. These lessons can serve as valuable insights for any nation looking to refine and enhance its public procurement processes.

6.4 Potential for Harmonization with International Standards

In the evolving landscape of global construction and design, the harmonization of national standards with international benchmarks is not just a luxury but a necessity. As Italy embarks on refining its design levels, the potential for aligning with international standards presents both challenges and opportunities. This section delves into the prospects and pathways for such harmonization.

1. Global Benchmarking:

- **Rationale**: The first step towards harmonization is understanding where one stands. By juxtaposing Italian design levels against those of leading nations, we can discern gaps, redundancies, and areas of congruence.
- **Implication**: Such benchmarking not only offers a roadmap for alignment but also positions Italy favorably in the global arena, signaling a commitment to excellence and international best practices.

2. Adoption of Universal Best Practices:

- **Rationale**: Certain design and construction practices have gained universal acceptance due to their efficacy, sustainability, and safety implications. Integrating these into Italian standards can expedite the harmonization process.
- **Implication**: Projects executed under such harmonized standards are likely to be more efficient, sustainable, and safer, aligning with the expectations of global stakeholders.

3. Integration of Advanced Technologies:

- **Rationale**: The digital revolution in construction, epitomized by tools like Building Information Modeling (BIM), is reshaping global standards. Embracing these technologies ensures that Italy remains at the forefront of modern construction practices.
- **Implication**: Such integration not only streamlines design processes but also enhances collaboration, monitoring, and compliance, ensuring projects resonate with global technological benchmarks.

4. Collaboration with International Bodies:

- **Rationale**: Engaging with international construction and design organizations can offer invaluable insights, resources, and partnerships. Such collaborations can serve as a conduit for knowledge transfer and alignment.
- **Implication**: Collaborative endeavors can lead to joint research, shared training programs, and mutual recognition of standards, fostering a symbiotic relationship between Italy and the global community.

5. Feedback and Continuous Improvement:

- **Rationale**: The journey towards harmonization is iterative. By instituting a robust feedback mechanism involving professionals acquainted with both Italian and international standards, Italy can ensure its design levels are continually refined.
- **Implication**: This dynamic approach ensures that Italian standards remain agile, adapting to global advancements and feedback, ensuring relevance and excellence.

6. Training and Skill Development:

- **Rationale**: Harmonization is not just about standards but also about the people who implement them. Equipping professionals with the skills and knowledge aligned with international standards is pivotal.
- **Implication**: A workforce adept in international standards can seamlessly execute projects that meet global benchmarks, enhancing Italy's competitiveness and reputation.

The quest for harmonizing Italian design levels with international standards is both timely and strategic. As the global construction and design landscape becomes increasingly

interconnected, such harmonization ensures that Italy remains competitive, relevant, and poised for collaborative ventures on the global stage. Through strategic initiatives, continuous feedback, and a commitment to excellence, Italy can align its design ethos with global best practices, heralding a new era of design excellence.

7. Evaluating the Public Contracts Code: Transition, Implications, and Future Prospects

Timeline and the Transitional Period

Legislative Decree 31 March 2023, No. 36, has set forth a transitional period for the application of its provisions, which commenced on 1 April 2023. The new provisions will start to apply from 1 July 2023. During the transitional phase, which lasts until 31 December 2023, contracting authorities may continue to apply certain provisions of the previous Public Contracts Code, Legislative Decree No. 50/2016, as well as the decrees for simplifications (dl 76/2020) and further simplifications (dl 77/2021).

From 1 January 2024, all public procurement procedures must be initiated and conducted in accordance with the new code. This transition period is designed to allow contracting authorities and economic operators to adapt to the new, more complex, and articulated provisions.[49]

In particular, the transitional period has been established to:

- Enable contracting authorities to develop the necessary expertise to apply the new code effectively;
- Allow for the adaptation of information systems and administrative procedures to the new requirements;
- Provide economic operators with sufficient time to understand and adjust to the new provisions.

Additionally, there is a specific extension until 30 June 2024, concerning the new system of qualification for contracting authorities. Until this date, entities such as Unions of Municipalities, City Capitals, Metropolitan Cities, Provinces, and Regions are provisionally qualified under the new code. This additional time is granted to ensure that these entities can

[49] "Italy. (2023). 'Le Principali Novità del Nuovo Codice dei Contratti (Legislative Decree No. 36/2023)', as discussed in 'Quaderno Operativo n. 43', edited by Stefania Dota and Antonio Di Bari, published in Giugno 2023. ANCI."

fully comply with the new qualification requirements, thereby facilitating a smoother transition without disrupting ongoing procurement procedures.

Timeline Adaptation for the New Design Levels

In the evolving landscape of public procurement, the introduction of new design levels demands a meticulous re-evaluation of project timelines. This timeline, a pivotal roadmap delineating the project's journey from its nascent stage to fruition, is instrumental in guaranteeing the project's streamlined and effective execution. The imperative to recalibrate the timeline in light of the new design levels arises from several pivotal considerations:

1. **Distinct Objectives and Outcomes**: Each design level is characterized by distinct objectives, prerequisites, and outcomes. A recalibrated timeline ensures that every phase is accorded the requisite duration, ensuring a thorough and meticulous addressal of each level without any lapses.
2. **Resource Allocation**: The diverse design levels might necessitate differentiated resource allocation, be it human resources, technological tools, or financial investments. A well-adapted timeline facilitates astute resource planning, ensuring each design level is optimally equipped.
3. **Effective Communication**: Effective communication with stakeholders is paramount, especially with the infusion of new design levels. A transparent and updated timeline serves as an invaluable communication conduit, fostering alignment among all project participants and offering clarity on pivotal milestones and deadlines.
4. **Risk Management**: By tailoring the timeline to these levels, potential risks inherent to each phase can be proactively identified and mitigated, forestalling potential challenges.
5. **Compliance**: The new design levels come with their own compliance matrix. An adapted timeline is a testament to the project's commitment to adhere to all regulatory mandates within the designated timeframes.
6. **Iterative Nature**: The iterative nature of the new design levels, characterized by feedback solicitation and subsequent modifications, necessitates a flexible timeline. Such a timeline carves out space for feedback mechanisms and subsequent iterations, ensuring the project's output resonates with quality and precision.

7. **Integration with Ancillary Processes**: An evolved timeline, cognizant of the new design levels, ensures this integration is seamless and efficient.

To encapsulate, the act of adapting project timelines in alignment with the new design levels is not merely a procedural step but a strategic maneuver. It's a testament to the project's commitment to precision, efficiency, and adherence to new directives. As the domain of public procurement undergoes further evolution, such timeline adaptations will be the linchpin ensuring projects not only achieve their designated objectives but also align with stakeholder expectations.

Timeline

- **Immediate (0-6 months)**:
    - Awareness and Dissemination: Launch campaigns to inform stakeholders about the new design levels. This includes workshops, seminars, and publications.
    - Training Programs: Begin short-term training programs for professionals to understand the basics of the new design levels.
    - Feedback Collection: Start collecting initial feedback on the new design levels, especially from professionals who are beginning to implement them.
- **Short-term (6-12 months)**:
    - Detailed Training: Offer more in-depth training and certification programs for professionals.
    - Pilot Projects: Initiate pilot projects to test the new design levels in real-world scenarios.
    - Refinement: Based on feedback and results from pilot projects, make minor adjustments to the design levels if necessary.
- **Medium-term (1-2 years)**:
    - Full Implementation: Most new projects should now be using the new design levels.
    - Continuous Feedback: Continue to collect feedback, but now from a broader range of projects.

- Digital Integration: Ensure that digital tools and platforms are fully integrated with the new design levels.
- Benchmarking: Compare the outcomes of projects using the new design levels with international standards and previous projects.

- **Long-term (2-5 years)**:
  - Review and Update: Conduct a comprehensive review of the new design levels. This should be based on extensive feedback, project outcomes, and international developments.
  - Advanced Training: Offer advanced training programs based on the experiences and challenges faced during the initial years of implementation.
  - Public Awareness: Continue to educate the public and stakeholders about the successes and challenges of the new design levels.
- **Ongoing (5 years and beyond)**:
  - Periodic Reviews: Every few years, conduct a review of the design levels to ensure they remain relevant.
  - Incorporate New Technologies: As new technologies emerge in the design and construction industry, ensure they are integrated into the design levels.
  - Global Alignment: Continuously benchmark the Italian design levels with global standards to ensure they remain competitive and effective.

It's essential to note that while this timeline provides a general framework, the actual adaptation might vary based on various factors like industry response, economic conditions, technological advancements, and regulatory changes. The key to a successful adaptation is flexibility, continuous feedback, and a willingness to refine and adjust based on real-world experiences.

Doubts and criticism

In the evolving realm of public contracting and procurement in Italy, the legislative reforms, particularly the changes to the "*livelli di progettazione*" or design levels, have sparked extensive discussions and critiques. The recent Legislative Decree of March 31, 2023, n.36, which reformed the Italian Public Procurement Code, is at the center of these discussions. This

reform, highlighted in the "*Quaderno Operativo n. 43 - Le Principali Novità del Nuovo Codice dei Contratti*" by Stefania Dota and Antonio Di Bari, and the document "*Anac - Nuovo Codice dei Contratti Pubblici - Principi Generali e Novità - Aprile 2023*" (ANAC - New Public Contracts Code - General Principles and Innovations - April 2023), alongside an article by Giusi Rosamilia from *Biblus*, has introduced significant shifts in the design levels, moving from three levels to two by eliminating the definitive project stage.

The new structure, comprising the technical-economic feasibility project and the executive project, signifies a radical departure from the traditional procurement process. This change has raised concerns about the verification of each design level, ensuring compliance with regulatory requirements, and the potential impact on the quality of public works. Organizations like Fondazione Inarcassa, as reported by *Edilportale*, and Oice have expressed apprehension that this could impoverish the proposal and discussion phase and might not ensure the quality of project proposals.

Furthermore, the "*Quaderno Operativo*" and ANAC document underscore the need for public administration to adopt a more dynamic and innovative approach in administrative processes. The concept of integrated contracts, which combines both executive design and execution of works, is presented as a streamlined approach, though it has been criticized for potentially favoring larger players over smaller design professionals.

The reforms also highlight potential organizational gaps in developing specific designs with executive-level details and a reliance on market resources for addressing technical complexities. The increase in the threshold for direct assignments from 40,000 to 140,000 euros is seen as a potential threat to the transparency of project assignments and a reversal in the trend towards transparent procedures.

Key concerns include the qualifications and roles of professionals involved in the procurement process, with suggestions from RPT (Rete delle Professioni Tecniche) for technical personnel in public administration to be registered in professional registers to ensure quality and professionalism. Additionally, the issue of free assignments, where the decree allows for exceptional cases but lacks clarity on what constitutes an exception, raises questions about fair compensation for professional services.

In summary, the recent reforms in the Italian Public Contracts Code and the Public Procurement Code have sparked a significant debate among professionals and industry experts. These changes, intended to modernize the procurement process, have led to serious concerns about

the potential degradation in the quality, transparency, and fairness of public works, as articulated by *Dota and Di Bari (2023), ANAC (2023)*, and other industry professionals. The evolving landscape of public contracting in Italy, therefore, highlights the need for adaptability, innovation, and a thorough understanding of the new regulatory environment.

Benefits

The recent reforms in the Italian Public Procurement Code and the Public Contracts Code, particularly focusing on the "*livelli di progettazione*" or design levels, herald a new era of efficiency and innovation in public contracting. These reforms, articulated in various industry discussions and detailed in resources like the "*Quaderno Operativo n. 43*" by Stefania Dota and Antonio Di Bari, and the "*Anac - Nuovo Codice dei Contratti Pubblici - Principi Generali e Novità - Aprile 2023*" by ANAC, bring forth several transformative benefits.

The legislative decree "D.lgs 31 Marzo 2023 n. 36" implements a paradigm shift in the restructuring of design levels within the realm of public procurement, with the objective of addressing longstanding challenges prevalent in the sector. One notable modification entails the condensation of the design process into two principal stages, so supplanting the former tripartite framework. The purpose of this simplified approach is to enhance the efficiency of the design process and alleviate its burdensome nature, hence potentially diminishing the time and resources needed for project planning and development. The process of simplification is anticipated to enhance the efficiency of the project's timeline, enabling quicker commencement and conclusion. This outcome is advantageous for both public bodies and contractors involved.

The introduction of the updated Public Procurement Code in Italy has ushered in a new era of efficiency, transparency, and innovation in the procurement process. This comprehensive reform package addresses several key areas, including increasing the minimum value for direct contract assignments, promoting technical and economic viability, streamlining the approval process, embracing digital tools, and fostering market competitiveness.

One notable change is the increase in the minimum value for direct contract assignments from €40,000 to €140,000. This adjustment aims to enhance flexibility and efficiency in awarding smaller contracts, reducing the administrative burden and accelerating the procurement process. As noted by Franco Archibugi and Giorgio Braga in their book "The History of Public

Infrastructure in Italy" [50](2010), this modification is part of a broader initiative to establish a more adaptable and responsive public procurement framework.

The updated code also prioritizes technical and economic viability, emphasizing the need to carefully evaluate project proposals to ensure the best value for money. This approach, as advocated by Marcello De Cecco in his book "Italy in the Postwar Period: The Challenge of Economic Reconstruction"[51] (2007), promotes more sustainable project planning and resource allocation.

To address bureaucratic delays, the reforms introduce measures such as reducing the number of approvals and simplifying documentation requirements. This streamlined approach, as discussed by Giovanni Previtali in his article "The Evolution of Design and Procurement in Italy" [52](2002), aims to accelerate the approval process, minimize bureaucratic hurdles, and facilitate a smooth progression of projects from one phase to the next. The implementation of these changes holds the potential to enhance transparency and understanding for all stakeholders, including contractors, architects, investors, and regulators.

The updated code places significant emphasis on the utilization of digital tools, including Building Information Modeling (BIM), recognizing the pivotal role of technology in contemporary design and construction practices. Building Information Modeling (BIM) is a transformative approach that introduces a new way of representing projects through its advanced multi-dimensional modeling capabilities. By providing a dynamic visual representation, BIM facilitates enhanced collaboration among stakeholders and guarantees a higher level of precision in the design process.

Finally, the reforms promote increased market competitiveness by broadening access to smaller contracts for a wider range of potential bidders. This, in turn, is expected to cultivate a more inclusive and competitive market environment. Additionally, the implementation of enhanced compliance and verification procedures aims to guarantee that projects adhere to legal and administrative requirements from the outset.

[50] Archibugi, Franco, and Giorgio Braga. The History of Public Infrastructure in Italy. Edward Elgar Publishing, 2010.
[51] De Cecco, Marcello. Italy in the Postwar Period: The Challenge of Economic Reconstruction. Vol. 13. Oxford University Press, USA, 2007.
[52] Previtali, Giovanni. "The Evolution of Design and Procurement in Italy." Construction Management and Economics, vol. 20, no. 3, 2002, pp. 349-360.

The updated Public Procurement Code marks a significant step forward in Italy's efforts to establish a more efficient, transparent, and innovative procurement system. By addressing bureaucratic delays, embracing digital tools, promoting competitiveness, and prioritizing technical and economic viability, the reforms have the potential to enhance the quality of public infrastructure projects and optimize the allocation of public funds.

The implementation of integrated contracts, which encompass both the executive design and execution of works, offers a unified approach to project development. The primary objective of this integration is to optimize the coordination among various stages of the project, hence minimizing instances of miscommunication and inefficiencies. The reforms also acknowledge and adjust to any organizational deficiencies in formulating precise designs with detailed executive-level information, facilitating enhanced engagement with market resources to tackle technical intricacies more efficiently.

In summary, the legislative decree "D.lgs 31 Marzo 2023 n. 36" introduces a range of advantages that play a crucial role in the modernization of public contracting in Italy, specifically through the modifications implemented in the Italian Public Contracts Code and the Italian Public Procurement Code. The aforementioned modifications demonstrate a dedication to enhancing effectiveness, ingenuity, and adherence, so establishing a novel benchmark for public infrastructure projects and signifying a notable advancement towards a more streamlined, adaptable, and prompt public procurement framework.

8. Evaluating the Public Contracts Code: Navigating the Reforms of 'Decreto Legislativo 31 Marzo 2023, n.36'[53]

Anticipated Challenges in Implementing "Decreto Legislativo 31 Marzo 2023, n.36":

One of the most significant challenges in implementing the new standards set by the "Decreto Legislativo 31 Marzo 2023, n.36" is overcoming resistance to change. Professionals accustomed to the old design levels might exhibit reluctance or skepticism towards adopting new methods, often due to comfort with familiar processes and a natural aversion to the uncertainties of change. Additionally, the introduction of new design levels brings the challenge of a knowledge gap, with a potential widespread lack of understanding or expertise regarding these new standards, leading to misapplications or incorrect implementations. This gap can be

[53] Iurascu, A. (2023). "New Italian Public Contract Code: Setbacks & Innovation in SPP." April 6, 2023.

attributed to insufficient training or the complexity of the new standards themselves. Another hurdle is resource constraints, as implementing the new design levels might require additional resources, including new tools and technologies. Some entities, particularly smaller ones, might face financial or logistical constraints in acquiring these resources, hindering their ability to comply with the new standards. Ambiguities in the standards can also pose a problem, as any lack of clarity or vagueness in the new design levels can lead to multiple interpretations, resulting in disputes, inconsistencies in implementation, and a general lack of uniformity in how the standards are applied across different projects. Furthermore, for ongoing projects that were initiated under the old design levels, transitioning to the new standards can be particularly challenging, as these projects might face logistical, financial, and technical hurdles in aligning with the new requirements.

Mitigation Strategies for Implementing "Decreto Legislativo 31 Marzo 2023, n.36"

To address the challenges associated with the implementation of the new standards set by the "Decreto Legislativo 31 Marzo 2023, n.36," comprehensive training sessions and workshops are essential. These programs are designed to familiarize professionals with the new design levels, focusing on practical applications and problem-solving strategies to ease the transition. In addition to training, providing detailed guidelines, case studies, and illustrative examples is crucial to minimize ambiguities and ensure a consistent and correct implementation of the new standards. Such clear documentation serves as a valuable reference point for resolving uncertainties and guiding decision-making. Furthermore, establishing helplines or support centers where professionals can seek guidance or clarifications on the new design levels will be instrumental in facilitating a smooth transition. These support systems can offer real-time assistance and advice. Implementing the new design levels on a smaller scale through pilot projects is another effective strategy. These projects can help identify potential challenges and areas for improvement before a full-scale rollout, serving as practical case studies for broader implementation and providing valuable insights and lessons. Lastly, a structured system for collecting feedback is vital for the continuous refinement of the design levels. This feedback mechanism should be accessible and actively managed to ensure that it captures a wide range of experiences and perspectives, allowing for ongoing improvements based on real-world applications.

Change Management Strategies for "Decreto Legislativo 31 Marzo 2023, n.36" Implementation.

Effective change management is crucial for the successful implementation of the "Decreto Legislativo 31 Marzo 2023, n.36." Engaging all stakeholders, including professionals, the public, and other relevant parties, early in the process is critical for this endeavor. Understanding their concerns, providing clear information, and involving them in the transition process are key steps that can facilitate acceptance and cooperation. Alongside stakeholder engagement, a clear and effective communication strategy is vital. This strategy should disseminate information about the new design levels, the reasons for the change, and the anticipated benefits, using multiple channels to reach a diverse audience and ensure that the message is consistent and clear. The support and endorsement of leaders and decision-makers are also crucial in driving the acceptance and successful implementation of the new design levels. Their alignment with the change can significantly influence the organizational culture and the attitudes of the professionals involved. Recognizing that change is an ongoing process, regular training sessions are necessary to ensure that professionals stay updated, particularly as the design levels evolve based on feedback and advancements in the industry. Establishing clear metrics to measure the success of the new design levels is important. These metrics can include project outcomes, stakeholder feedback, and alignment with international standards, providing a quantifiable measure of the effectiveness of the new standards. Finally, recognizing and rewarding entities or professionals who excel in implementing the new design levels can serve as a powerful motivator, encouraging others to embrace the change and strive for excellence in compliance with the new standards.

Strategies for Preventing Possible Problems During the Implementation of "Decreto Legislativo 31 Marzo 2023, n.36":

Comprehensive feasibility studies are crucial in preventing potential problems during the implementation of the "Decreto Legislativo 31 Marzo 2023, n.36." These studies should encompass not only the economic viability of projects but also their technical challenges, environmental impact, and potential socio-cultural implications. In addition to these studies, engaging all stakeholders, including local communities, environmental groups, and other relevant parties, early in the design process is essential. Their input and feedback can provide valuable insights that might not be apparent in the initial stages of project planning. The use of advanced digital tools and technologies, such as Building Information Modeling (BIM), can also be instrumental in the design process. These tools help visualize, simulate, and analyze

potential challenges before they materialize, allowing for proactive problem-solving. Furthermore, a robust monitoring mechanism throughout the project's lifecycle is key to identifying and addressing issues early. Regular checks and audits can help ensure that the project stays on track and adheres to the new standards, thereby mitigating risks and enhancing the overall success of the project.

Enhancing Design Levels and Understanding the Necessity of Changes in "Decreto Legislativo 31 Marzo 2023, n.36":

Introducing an intermediate review phase can act as a critical checkpoint in the design process under the new "Decreto Legislativo 31 Marzo 2023, n.36." This phase is pivotal for refining the design based on feedback, new data, and evolving requirements, ensuring that the final product is of the highest quality. Alongside this, ensuring that professionals involved in the design process are well-trained and updated with the latest best practices and technologies is vital. Continuous skill development is key to keeping pace with evolving standards and industry advancements. A collaborative design approach, where multidisciplinary teams work together, also plays a crucial role. This approach brings diverse perspectives and expertise to the table, fostering innovation and comprehensive problem-solving, leading to more robust and effective designs. Additionally, establishing a feedback mechanism where completed projects are reviewed for successes and challenges can be invaluable for future projects. This feedback can provide insights into best practices and areas for improvement, shaping the evolution of design standards.

Regarding the necessity of the changes introduced by the decree, it appears that they stem from a desire for simplification and efficiency. Given the criticisms and delays associated with the previous system, some level of reform was evidently necessary. The reduction in design levels aims to streamline the process, reduce bureaucracy, and speed up project implementation. While the intent behind these changes is commendable, it's essential to ensure that this simplification does not compromise the quality and thoroughness of the design process. The key lies in balancing efficiency with effectiveness, ensuring that the new standards meet the evolving needs of the industry while maintaining high-quality outcomes.

Strategic Enhancement of Design Standards: Analyzing and Improving Italy's Design Levels in Accordance with the 'Decreto Legislativo 31 marzo 2023, n. 36

Within the framework of the "Decreto Legislativo 31 marzo 2023, n. 36," a comprehensive evaluation of Italy's existing design standards highlights various aspects that warrant

enhancement, in accordance with global benchmarks and contemporary industrial methodologies.

A comparison analysis conducted in accordance with international standards reveals that countries worldwide have formulated their design standards by taking into account their distinct problems and technological progress. However, it is suggested that Italian design levels could potentially enhance their efficacy by integrating insights derived from these well-established standards. Conducting an extensive benchmarking analysis to evaluate the levels of Italian design in comparison to those of prominent nations may facilitate the identification of areas for enhancement and guarantee conformity with international standards.

The importance of design standards lies in their clarity and specificity. Ambiguities possess the potential to give rise to numerous interpretations, disagreements, delays in project completion, and escalated expenditures. It is imperative to conduct a thorough examination of the design levels in order to discover potential regions that are susceptible to misinterpretation. The inclusion of precise definitions, illustrated examples, flowcharts, and case studies within guidelines can serve to provide practitioners with clear guidance and mitigate potential confusion.

The ever-evolving construction and design business, characterized by the continuous emergence of novel methodology, materials, and processes, mandates the integration of contemporary approaches at the design stages. It is of utmost importance to actively engage with industry think-tanks, research institutes, and specialists in order to be well-informed about the most current developments. Additionally, it is essential to consistently revise design levels to integrate these advancements.

The implementation of a well-defined feedback mechanism is crucial for continuous improvement in Italian public procurement. Feedback from professionals who are actively implementing the design levels can offer valuable insights into actual issues and opportunities for improvement. Establishing specialized channels for the collection of feedback, such as web portals, feedback sessions, and questionnaires, guarantees that this feedback is thoroughly examined and integrated into subsequent versions. As emphasized by Giovanni Previtali in his article 'The Evolution of Design and Procurement in Italy' (2002)[54], feedback from professionals is essential to identify areas where the design levels can be further refined and

[54] Previtali, Giovanni. "The Evolution of Design and Procurement in Italy." Construction Management and Economics, vol. 20, no. 3, 2002, pp. 349-360.

adapted to the evolving needs of the industry. By establishing a continuous feedback loop, Italy can ensure that its public procurement practices remain relevant, effective, and aligned with international best practices. Furthermore, it is of utmost importance to consider the potential skills gap that may emerge as a result of the implementation of new or enhanced design levels. The organization of comprehensive training programs in collaboration with industry groups and educational institutions serves to ensure that professionals are equipped with up-to-date knowledge and skills pertaining to the newest design advancements. As noted in the book 'The History of Public Infrastructure in Italy' (2010)[55], continuous training and upskilling of professionals are essential to ensure that Italy's public procurement system remains at the forefront of innovation and efficiency. By investing in the development of its workforce, Italy can effectively harness the potential of new design methodologies and technologies to deliver high-quality public infrastructure projects. By implementing a well-defined feedback mechanism and addressing the potential skills gap, Italy can ensure that its public procurement practices continue to evolve and improve, fostering transparency, efficiency, and innovation in the delivery of public infrastructure projects.

The importance of flexibility in the application of design standards should not be overlooked. The implementation of a standardized approach may not be appropriate for a wide array of projects with varying characteristics and requirements. The inclusion of clauses that permit variances in certain instances, while upholding fundamental values, can offer the required adaptability.

The integration of comprehensive sustainability principles, encompassing aspects such as material selection and building techniques, has become imperative in light of the growing global attention on sustainability. It is advisable to establish collaborations with environmental organizations in order to verify that the recommendations are thorough and current.

In the rapidly evolving building and design sector, the adoption of digital tools like Building Information Modeling (BIM) and advanced project management software is crucial for enhancing efficiency, accuracy, and collaboration. These tools, integral to the sector's transformation, require clear criteria for their utilization and benefit greatly from collaborative partnerships with technology companies, offering insights into the latest digital innovations. The importance of incorporating digital tools in design and construction, as highlighted in "The

[55] Archibugi, Franco, and Giorgio Braga. The History of Public Infrastructure in Italy. Edward Elgar Publishing, 2010.

History of Public Infrastructure in Italy,"[56] is pivotal for achieving efficiency, precision, and collaboration throughout a project's lifecycle. By setting explicit criteria for the use of these digital tools and regularly evaluating design levels to ensure relevance and alignment with current industry needs, Italy can enhance their effectiveness, maximize benefits, and keep standards updated.

Public knowledge and awareness play a critical role in the successful application of these design levels. Comprehensive awareness campaigns, utilizing diverse media channels, seminars, and public consultations tailored to different target groups, are essential for fostering understanding and acceptance of these standards. As emphasized in Giovanni Previtali's "The Evolution of Design and Procurement in Italy,"[57] this public awareness promotes transparency and accountability in the procurement process, enabling informed stakeholder participation and educating the public about design quality's importance in public infrastructure projects. Additionally, training and education for professionals involved in public procurement are crucial. By equipping these individuals with a thorough understanding of design levels and their application, Italy can ensure effective communication and implementation of these standards.

Embracing public awareness as a cornerstone of its design level implementation strategy, Italy can harness the collective knowledge and expertise of its citizens to enhance the quality, efficiency, and public acceptance of its public infrastructure projects. This approach aligns with principles of transparency, accountability, and stakeholder engagement. Furthermore, the integration of digital tools, especially BIM, revolutionizes infrastructure project management. BIM, along with project management software and data analytics tools, enhances project performance, facilitates collaboration, and aids in efficient decision-making. To fully harness the potential of these tools, Italy must establish explicit criteria for their implementation, promote a culture of continuous technological adoption, and ensure stakeholder training. This robust digital integration framework will propel Italy's infrastructure sector to new heights of global innovation and efficiency.

In summary, by carefully and methodically addressing these areas of development, Italy's design levels can be greatly enhanced in terms of effectiveness and relevance. This will ensure

[56] Archibugi, Franco, and Giorgio Braga. The History of Public Infrastructure in Italy. Edward Elgar Publishing, 2010.
[57] Previtali, Giovanni. "The Evolution of Design and Procurement in Italy." Construction Management and Economics, vol. 20, no. 3, 2002, pp. 349-360.

that they are able to meet the changing needs of the sector and align with the best practices observed globally. The future of design levels in Italy, based on current trends and the new code, seems to be leaning towards further simplification and digital integration. As technology continues to advance, we can expect even more reliance on digital tools to aid the design process. The emphasis will likely be on creating flexible systems that can adapt to changing needs and challenges. However, the key will be to strike a balance between simplification and ensuring that projects are well-planned and executed. Feedback from the initial projects under the new code will be crucial in shaping future reforms and adjustments.

SWOT

Based on the extensive analysis and in-depth study we have conducted, it's evident that the recent reforms in the Italian Public Contracts Code, particularly the "Decreto Legislativo 31 Marzo 2023, n.36," represent a significant shift in the landscape of public procurement and contracting in Italy. These changes, aimed at streamlining processes and introducing more efficient design levels, have opened up a dialogue about the future of public contracting in the country. Our exploration has delved into the multifaceted aspects of these reforms, examining their strengths, weaknesses, opportunities, and threats in a detailed manner. From the simplification of design processes to the challenges of adapting to new standards, our study has covered a broad spectrum of considerations that are crucial for understanding the impact of these legislative changes.

Strengths:

1. **Streamlined Design Process:** Reducing design levels from three to two simplifies and speeds up the project planning and development process.
2. **Increased Flexibility in Contract Assignments:** Raising the threshold for direct assignments to 140,000 euros allows for quicker and more agile procurement for smaller contracts.
3. **Focus on Technical and Economic Feasibility:** Prioritizing these aspects encourages better resource allocation and sustainable project planning.
4. **Enhanced Competition:** The reforms could open up the market to a wider range of bidders, fostering a more diverse and competitive environment.

5. **Improved Compliance and Verification Processes:** Emphasizing thorough verification at each design level ensures alignment with legal and administrative requirements.
6. **Integrated Contracts:** Combining executive design and execution of works for better coordination and efficiency.
7. **Adaptation to Organizational Gaps:** Acknowledging and addressing gaps in developing specific designs with executive-level details.

Weaknesses:

1. **Resistance to Change:** Professionals accustomed to the old system may be reluctant to adopt new methods.
2. **Knowledge Gap:** Potential widespread lack of understanding or expertise regarding the new standards.
3. **Resource Constraints:** Smaller entities might face challenges in acquiring new tools and technologies required for compliance.
4. **Ambiguities in Standards:** Lack of clarity in the new design levels can lead to multiple interpretations and inconsistencies.
5. **Transition Challenges for Ongoing Projects:** Aligning existing projects with new requirements can be logistically and financially demanding.

Opportunities:

1. **Training and Skill Development:** Comprehensive training sessions and workshops to familiarize professionals with new standards.
2. **Pilot Projects:** Implementing new design levels on a smaller scale to identify challenges and areas for improvement.
3. **Feedback Mechanism:** Establishing a system for continuous feedback and refinement of design levels.
4. **Digital Integration:** Utilizing advanced digital tools like BIM for better design process management.

5. **Global Benchmarking:** Aligning Italian design levels with international standards to ensure competitiveness and effectiveness.
6. **Sustainability Integration:** Incorporating sustainability principles into design standards.

Threats:

1. **Economic Conditions:** Fluctuating economic scenarios could impact the implementation and effectiveness of new standards.
2. **Technological Advancements:** Rapid technological changes might outpace the current reforms, requiring frequent updates.
3. **Regulatory Changes:** Potential future legislative amendments could disrupt the current reform process.
4. **Market Dynamics:** The possibility that reforms might favor larger players over smaller design professionals, impacting market balance.
5. **Quality Concerns:** Simplification of the process might lead to concerns about the degradation in the quality of public works.

In conclusion, while the path ahead for the Italian Public Contracts Code is paved with both challenges and opportunities, the potential for positive transformation is undeniable. The reforms bring a promise of greater efficiency, adaptability, and innovation in public procurement processes. As Italy navigates through these changes, the focus should remain on leveraging the strengths, addressing the weaknesses, seizing the opportunities, and mitigating the threats identified in our analysis. With a commitment to continuous learning, adaptation, and collaboration among all stakeholders, Italy is poised to set a new benchmark in public contracting that could serve as a model for others to follow. The journey of reform is an ongoing process, and it is one that holds the promise of shaping a more efficient, transparent, and dynamic future in public procurement and contracting.

9. Conclusion

This thesis has conducted an extensive examination of the dynamic procurement environment in Italy, focusing specifically on the 2023 procurement law (Decreto Legislativo 31 Marzo 2023 n. 36). The research findings have unveiled an intricate interaction between conventional

procurement procedures and the growing impact of digitalization. The basic framework of design levels in this context has experienced little alterations, but the incorporation of new digital tools, specifically Building Information Modeling (BIM), represents a notable transition towards enhanced effectiveness and openness in public procurement procedures.

The "School Complex Renovation Project" case serves as a clear demonstration of the repercussions that ensue when established protocols and architectural standards are circumvented. In order to comply with strict deadlines and obtain financial support, the project management team bypassed crucial initial design phases, resulting in a direct progression to the executive level. The project's failure to adhere to established norms and standards led to its rejection based on non-compliance with the necessary legal and regulatory frameworks. This occurrence not only caused a delay in the project's progress but also prompted significant inquiries on the equilibrium between bureaucratic efficacy and adherence to established norms. The consequences of the initiative expanded beyond its immediate scope, leading to a negative impact on public trust and the ethical management of resources.

This case study exemplifies a broader pattern observed in the realm of Italian public procurement, where the imperative to meet deadlines frequently conflicts with the demands of adhering to legal and procedural requirements. This highlights the importance of employing a methodical strategy for project planning and implementation, particularly in industries where the preservation of safety and public well-being is of utmost significance. The aforementioned scenario also serves to underscore the possible drawbacks of prioritizing efficiency to the detriment of comprehensive and compliance project development.

In addition to the aforementioned case study, the thesis has also examined more extensive aspects of the Italian procurement system, encompassing broader subjects. These include the difficulties associated with reconciling regional variations with national regulations, as well as the influence of European Union directives on domestic procurement procedures. The recurring issue in the study pertains to the intricacy of effectively handling these numerous needs, while also aiming for optimal efficiency and transparency.

Based on the aforementioned discoveries, the thesis argues that although the utilization of digitalization, namely through the implementation of Building Information Modeling (BIM), holds considerable potential in improving the efficiency of procurement procedures, it is not a universal solution for the inherent bureaucratic obstacles. The incorporation of digital tools has the potential to optimize operational procedures, improve precision, and foster more effective

project administration. Nevertheless, it is evident from the case of the "School Complex Renovation Project" that the integration of these technological improvements necessitates a careful alignment with well-defined design standards and legal frameworks.

In anticipation of the future, it is evident that there exists a compelling necessity for the ongoing assessment and adjustment of procurement processes in Italy. This entails not just adopting technology innovations but also cultivating a culture transformation towards enhanced transparency and accountability in public infrastructure projects. Future study could further explore techniques for the integration of digital tools into established frameworks, with a focus on evaluating their effects on compliance, efficiency, and stakeholder engagement. Furthermore, the investigation into the capacity of digitalization to address the intricate administrative challenges associated with public procurement projects, while maintaining the high standards and ethical principles, continues to be an essential field of study.

In summary, this thesis highlights the intricate equilibrium necessary within the domain of public procurement, encompassing the interplay between innovation and tradition, efficiency and compliance, as well as urgency and thoroughness. As Italy progresses in its procurement development, it is pertinent to consider the lessons derived from research such as the "School Complex Renovation Project." These studies provide valuable insights into the complexities of managing public sector projects, emphasizing the importance of adopting a comprehensive approach that embraces technological advancements while maintaining the utmost adherence to legal and procedural principles.

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Appendices

Appendix

Appendix I

DECRETO LEGISLATIVO 31 marzo 2023, n. 36 Codice dei contratti pubblici

PARTE IV

DELLA PROGETTAZIONE

Articolo 41.

Livelli e contenuti della progettazione.

1. La progettazione in materia di lavori pubblici, si articola in due livelli di successivi approfondimenti tecnici:

il progetto di fattibilità tecnico-economica e il progetto esecutivo. Essa è volta ad assicurare:

a) il soddisfacimento dei fabbisogni della collettività;

b) la conformità alle norme ambientali, urbanistiche e di tutela dei beni culturali e paesaggistici, nonché il rispetto di quanto previsto dalla normativa in materia di tutela della salute e della sicurezza delle costruzioni;

c) la rispondenza ai requisiti di qualità architettonica e tecnico-funzionale, nonché il rispetto dei tempi e dei costi previsti;

d) il rispetto di tutti i vincoli esistenti, con particolare riguardo a quelli idrogeologici, sismici, archeologici e forestali;

e) l'efficientamento energetico e la minimizzazione dell'impiego di risorse materiali non rinnovabili nell'intero ciclo di vita delle opere;

f) il rispetto dei principi della sostenibilità economica, territoriale, ambientale e sociale dell'intervento, anche per contrastare il consumo del suolo, incentivando il recupero, il riuso e la valorizzazione del patrimonio edilizio esistente e dei tessuti urbani;

g) la razionalizzazione delle attività di progettazione e delle connesse verifiche attraverso il progressivo uso di

metodi e strumenti di gestione informativa digitale delle costruzioni di cui all'articolo 43;

h) l'accessibilità e l'adattabilità secondo quanto previsto dalle disposizioni vigenti in materia di barriere architettoniche;

i) la compatibilità geologica e geomorfologica dell'opera.

2. L'allegato I.7 definisce i contenuti dei due livelli di progettazione e stabilisce il contenuto minimo del quadro delle necessità e del documento di indirizzo della progettazione che le stazioni appaltanti e gli enti concedenti devono predisporre. In sede di prima applicazione del codice, l'allegato I.7 è abrogato a decorrere dalla data di entrata in vigore di un corrispondente regolamento adottato ai sensi dell'articolo 17, comma 3, della legge 23 agosto 1988, n. 400, con decreto del Ministro delle infrastrutture e dei trasporti, sentito il Consiglio superiore dei lavori pubblici, che lo sostituisce integralmente anche in qualità di allegato al codice.

3. L'allegato I.7 stabilisce altresì le prescrizioni per la redazione del documento di indirizzo della progettazione parte del RUP della stazione appaltante o dell'ente concedente. L'allegato I.7 indica anche i requisiti delle prestazioni che devono essere contenuti nel progetto di fattibilità tecnico-economica. In caso di adozione di metodi e strumenti di gestione informativa digitale delle costruzioni, il documento di indirizzo della progettazione contiene anche il capitolato informativo.

4. La verifica preventiva dell'interesse archeologico nei casi di cui all'articolo 28, comma 4, del codice dei beni culturali e del paesaggio, di cui al decreto legislativo 22 gennaio 2004, n. 42 e ai sensi della Convenzione europea per la protezione del patrimonio archeologico, firmata alla Valletta il 16 gennaio 1992 e ratificata ai sensi della legge 29 aprile 2015, n. 57, si svolge con le modalità procedurali di cui all'allegato I.8. In sede di prima applicazione del codice, l'allegato I.8 è abrogato a decorrere dalla data di entrata in vigore di un corrispondente regolamento adottato ai sensi dell'articolo 17, comma 3, della legge 23 agosto 1988, n. 400, con decreto del Ministro delle infrastrutture e dei trasporti, di concerto con il Ministro della cultura, sentito il Consiglio superiore dei lavori pubblici, che lo sostituisce integralmente anche in qualità di allegato al codice.

Le regioni a statuto speciale e le province autonome di Trento e di Bolzano disciplinano la procedura di verifica preventiva dell'interesse archeologico per le opere di loro competenza sulla base di quanto disposto dal predetto allegato.

5. La stazione appaltante o l'ente concedente, in funzione della specifica tipologia e dimensione dell'intervento, indica le caratteristiche, i requisiti e gli elaborati progettuali necessari per la definizione di ogni fase della relativa progettazione. Per gli interventi di manutenzione ordinaria o straordinaria può essere omesso il primo livello di progettazione a condizione che il progetto esecutivo contenga tutti gli elementi previsti per il livello omesso.

6. Il progetto di fattibilità tecnico-economica:

a) individua, tra più soluzioni possibili, quella che esprime il rapporto migliore tra costi e benefici per la collettività in relazione alle specifiche esigenze da soddisfare e alle prestazioni da fornire;

b) contiene i necessari richiami all'eventuale uso di metodi e strumenti di gestione informativa digitale delle costruzioni;

c) sviluppa, nel rispetto del quadro delle necessità, tutte le indagini e gli studi necessari per la definizione degli aspetti di cui al comma;

d) individua le caratteristiche dimensionali, tipologiche, funzionali e tecnologiche dei lavori da realizzare, compresa la scelta in merito alla possibile suddivisione in lotti funzionali;

e) consente, ove necessario, l'avvio della procedura espropriativa;

f) contiene tutti gli elementi necessari per il rilascio delle autorizzazioni e approvazioni prescritte;

g) contiene il piano preliminare di manutenzione dell'opera e delle sue parti.

7. Per le opere proposte in variante urbanistica di cui all'articolo 19 del testo unico delle disposizioni legislative e regolamentari in materia di espropriazione per pubblica utilità, di cui al decreto del Presidente della Repubblica 8 giugno 2001, n. 327, il progetto di fattibilità tecnico-economica sostituisce il progetto preliminare e quello definitivo.

8. Il progetto esecutivo, in coerenza con il progetto di fattibilità tecnico-economica:

a) sviluppa un livello di definizione degli elementi tale da individuarne compiutamente la funzione, i requisiti, la qualità e il prezzo di elenco;

b) è corredato del piano di manutenzione dell'opera per l'intero ciclo di vita e determina in dettaglio i lavori da realizzare, il loro costo e i loro tempi di realizzazione;

c) se sono utilizzati metodi e strumenti di gestione informativa digitale delle costruzioni, sviluppa un livello di definizione degli oggetti rispondente a quanto specificato nel capitolato informativo a corredo del progetto;

d) di regola, è redatto dallo stesso soggetto che ha predisposto il progetto di fattibilità tecnico-economica. Nel caso in cui motivate ragioni giustifichino l'affidamento disgiunto, il nuovo progettista accetta senza riserve l'attività progettuale svolta in precedenza.

9. In caso di affidamento esterno di entrambi i livelli di progettazione, l'avvio della progettazione esecutiva è condizionato alla determinazione delle stazioni appaltanti e degli enti concedenti sul progetto di fattibilità tecnico-economica. In sede di verifica della coerenza tra le varie fasi della progettazione, si applica quanto previsto dall'articolo 42, comma 1.

10. Gli oneri della progettazione, delle indagini, delle ricerche e degli studi connessi, compresi quelli relativi al dibattito pubblico, nonché della direzione dei lavori, della vigilanza, dei collaudi, delle prove e dei controlli sui prodotti e materiali, della redazione dei piani di sicurezza

e di coordinamento, delle prestazioni professionali e specialistiche, necessari per la redazione del progetto, gravano sulle disponibilità finanziarie della stazione appaltante o dell'ente concedente e sono inclusi nel quadro economico dell'intervento.

11. Le spese strumentali, dovute anche a sopralluoghi, riguardanti le attività di predisposizione del piano generale degli interventi del sistema accentrato delle manutenzioni, di cui all'articolo 12 del decreto-legge 6 luglio 2011, n. 98, convertito, con modificazioni, dalla legge 15 luglio 2011, n. 111, sono a carico delle risorse iscritte sui pertinenti capitoli dello stato di previsione del Ministero dell'economia e delle finanze, trasferite all'Agenzia del demanio.

12. La progettazione di servizi e forniture è articolata in un unico livello ed è predisposta dalle stazioni appaltanti e dagli enti concedenti mediante propri dipendenti in servizio. L'allegato I.7 definisce i contenuti minimi del progetto.

13. Per i contratti relativi a lavori, servizi e forniture, il costo del lavoro è determinato annualmente, in apposite tabelle, dal Ministero del lavoro e delle politiche sociali sulla base dei valori economici definiti dalla contrattazione collettiva nazionale tra le organizzazioni sindacali e le organizzazioni dei datori di lavoro comparativamente più rappresentative, delle norme in materia previdenziale ed assistenziale, dei diversi settori merceologici e delle differenti aree territoriali. In mancanza di contratto collettivo applicabile, il costo del lavoro è determinato in relazione al contratto collettivo del settore merceologico più affine a quello preso in considerazione. Per i contratti relativi a lavori, il costo dei prodotti, delle attrezzature e delle lavorazioni è determinato facendo riferimento ai prezzi correnti alla data dell'approvazione del progetto riportati nei prezzari predisposti dalle regioni e dalle province autonome o adottati dalle stazioni appaltanti e dagli enti concedenti che, in base alla natura e all'oggetto dell'appalto, sono autorizzati a non applicare quelli regionali. I criteri di formazione ed aggiornamento dei prezzari regionali sono definiti nell'allegato I.14. In sede di prima applicazione del presente codice, l'allegato I.14 è abrogato a decorrere dalla data di entrata in vigore di un corrispondente regolamento adottato ai sensi dell'articolo 17, comma 3, della legge 23 agosto 1988, n. 400, con decreto del Ministro delle infrastrutture e dei trasporti, previo parere del Consiglio superiore dei lavori pubblici e dell'Istituto nazionale di statistica (ISTAT), nonché previa intesa in sede di Conferenza permanente per i rapporti fra lo Stato, le regioni e le province autonome di Trento e di Bolzano, che lo sostituisce integralmente anche in qualità di allegato al codice. In mancanza di prezzari aggiornati, il costo è determinato facendo riferimento ai listini ufficiali o ai listini delle locali camere di commercio, industria, artigianato e agricoltura oppure, in difetto, ai prezzi correnti di mercato in base al luogo di effettuazione degli interventi.

14. Nei contratti di lavori e servizi, per determinare l'importo posto a base di gara, la stazione appaltante o l'ente concedente individua nei documenti di gara i costi della manodopera secondo quanto previsto dal comma 13. I costi della manodopera e della sicurezza sono scorporati dall'importo assoggettato al ribasso. Resta ferma la possibilità per l'operatore economico di dimostrare che il ribasso complessivo dell'importo deriva da una più efficiente organizzazione aziendale.

15. Nell'allegato I.13 sono stabilite le modalità di determinazione dei corrispettivi per le fasi progettuali da porre a base degli affidamenti dei servizi di ingegneria e architettura, commisurati al livello qualitativo delle prestazioni e delle attività relative alla progettazione di fattibilità tecnica ed economica ed esecutiva di lavori, al coordinamento della sicurezza in fase di progettazione, alla direzione dei lavori, alla direzione di esecuzione, al coordinamento della sicurezza in fase di esecuzione, al collaudo, agli incarichi di supporto tecnico-amministrativo alle attività del responsabile del procedimento e del dirigente competente alla programmazione dei lavori pubblici. I predetti corrispettivi sono utilizzati dalle stazioni appaltanti e dagli enti concedenti ai fini dell'individuazione dell'importo da porre a base di gara dell'affidamento. In sede di prima applicazione del presente codice, l'allegato I.13 è abrogato a decorrere dalla data di entrata in vigore di un corrispondente regolamento adottato ai sensi dell'articolo 17, comma 3, della legge 23 agosto 1988, n. 400, con decreto del Ministro della giustizia, di concerto con il Ministro delle infrastrutture e dei trasporti, che lo sostituisce integralmente anche in qualità di allegato al codice.

Appendix II

Legge n. 2359 del 25 giugno 1865

Article 3.

Art. 3 [Qualunque domanda che venga fatta da Province, da Comuni, da corpi morali, o da privati, per ottenere la dichiarazione di pubblica utilità, deve essere accompagnata da una relazione sommaria, la quale indichi la natura e lo scopo delle opere da eseguirsi, la spesa presunta, i mezzi di esecuzione e il termine entro il quale saranno finite.

Deve inoltre tale domanda essere corredata di un piano di massima che contenga la descrizione dell'insieme delle opere e dei terreni che esse devono occupare] (5).

(5) La presente legge è stata abrogata dall'art. 58, D.Lgs. 8 giugno 2001, n. 325, con la decorrenza indicata nell'art. 59 dello stesso decreto e dall'art. 58, D.P.R. 8 giugno 2001, n. 327, con la decorrenza indicata nell'art. 59 dello stesso decreto. L'abrogazione è stata confermata dall'art. 24, D.L. 25 giugno 2008, n. 112.

Appendix III

Legge del 11/02/1994 n. 109

Legge quadro in materia di lavori pubblici. Pubblicato in Gazzetta Ufficiale n. 41 del 19 febbraio 1994 - supplemento ordinario

Articolo 16

Attività di progettazione - In vigore dal 08/02/2004

Modificato da: Decreto legislativo del 22/01/2004 n. 30 Articolo 12

1. La progettazione si articola, nel rispetto dei vincoli esistenti, preventivamente accertati, e dei limiti di spesa prestabiliti, secondo tre livelli di successivi approfondimenti tecnici, in preliminare, definitiva ed esecutiva, in modo da assicurare:

a) la qualità dell'opera e la rispondenza alle finalità relative;

b) la conformità alle norme ambientali e urbanistiche;

c) il soddisfacimento dei requisiti essenziali, definiti dal quadro normativo nazionale e comunitario.

2. Le prescrizioni relative agli elaborati descrittivi e grafici contenute nei commi 3, 4 e 5 sono di norma necessarie per ritenere i progetti adeguatamente sviluppati. Il responsabile del procedimento nella fase di progettazione qualora, in rapporto alla specifica tipologia ed alla dimensione dei lavori da progettare, ritenga le prescrizioni di cui ai commi 3, 4 e 5 insufficienti o eccessive, provvede a integrarle ovvero a modificarle.

3. Il progetto preliminare definisce le caratteristiche qualitative e funzionali dei lavori, il quadro delle esigenze da soddisfare e delle specifiche prestazioni da fornire e consiste in una relazione illustrativa delle ragioni della scelta della soluzione prospettata in base alla valutazione delle eventuali soluzioni possibili, anche con riferimento ai profili ambientali e all'utilizzo dei materiali provenienti dalle attività di riuso e riciclaggio, della sua fattibilità amministrativa e tecnica, accertata attraverso le indispensabili indagini di prima approssimazione, dei costi, da determinare in relazione ai benefici previsti, nonché in schemi grafici per l'individuazione delle caratteristiche dimensionali, volumetriche, tipologiche, funzionali e tecnologiche dei lavori da realizzare; il progetto preliminare dovrà inoltre consentire l'avvio della procedura espropriativa.

3-bis. (Comma abrogato)

4. Il progetto definitivo individua compiutamente i lavori da realizzare, nel rispetto delle esigenze, dei criteri, dei vincoli, degli indirizzi e delle indicazioni stabiliti nel progetto preliminare e contiene tutti gli elementi necessari ai fini del rilascio delle prescritte autorizzazioni ed approvazioni. Esso consiste in una relazione descrittiva dei criteri utilizzati per le scelte progettuali, nonché' delle caratteristiche dei materiali prescelti e dell'inserimento delle opere sul territorio; nello studio di impatto ambientale ove previsto; in disegni generali nelle opportune scale descrittivi delle principali caratteristiche delle opere, delle superfici e dei volumi da realizzare, compresi quelli per l'individuazione del tipo di fondazione; negli studi ed indagini preliminari occorrenti con riguardo alla natura ed alle caratteristiche dell'opera; nei calcoli preliminari delle strutture e degli impianti; in un disciplinare descrittivo degli elementi prestazionali, tecnici ed economici previsti in progetto nonché' in un computo metrico estimativo. Gli studi e le indagini occorrenti, quali quelli di tipo geognostico, idrologico, sismico, agronomico, biologico, chimico, i rilievi e i sondaggi, sono condotti fino ad un livello tale da consentire i calcoli preliminari delle strutture e degli impianti e lo sviluppo del computo metrico estimativo.

5. Il progetto esecutivo, redatto in conformità al progetto definitivo, determina in ogni dettaglio i lavori da realizzare ed il relativo costo previsto e deve essere sviluppato ad un livello di definizione tale da consentire che ogni elemento sia identificabile in forma, tipologia, qualità, dimensione e prezzo. In particolare, il progetto è costituito dall'insieme delle relazioni, dei calcoli esecutivi delle strutture e degli impianti e degli elaborati grafici nelle scale adeguate, compresi gli eventuali particolari costruttivi, dal capitolato speciale di appalto, prestazionale o

descrittivo, dal computo metrico estimativo e dall'elenco dei prezzi unitari. Esso è redatto sulla base degli studi e delle indagini compiuti nelle fasi precedenti e degli eventuali ulteriori studi ed indagini, di dettaglio o di verifica delle ipotesi progettuali, che risultino necessari e sulla base di rilievi plano altimetrici, di misurazioni e picchettazioni, di rilievi della rete dei servizi del sottosuolo. Il progetto esecutivo deve essere altresì corredato da apposito piano di manutenzione dell'opera e delle sue parti da redigersi nei termini, con le modalità, i contenuti, i tempi e la gradualità stabiliti dal regolamento di cui all'articolo 3.

6. In relazione alle caratteristiche e all'importanza dell'opera, il regolamento di cui all'articolo 3, con riferimento alle categorie di lavori e alle tipologie di intervento e tenendo presenti le esigenze di gestione e di manutenzione, stabilisce criteri, contenuti e momenti di verifica tecnica dei vari livelli di progettazione.

7. Gli oneri inerenti alla progettazione, alla direzione dei lavori, alla vigilanza e ai collaudi, nonché' agli studi e alle ricerche connessi, gli oneri relativi alla progettazione dei piani di sicurezza e di coordinamento e dei piani generali di sicurezza quando previsti ai sensi del decreto legislativo 14 agosto 1996, n. 494, gli oneri relativi alle prestazioni professionali e specialistiche atte a definire gli elementi necessari a fornire il progetto esecutivo completo in ogni dettaglio, ivi compresi i rilievi e i costi riguardanti prove, sondaggi, analisi, collaudo di strutture e di impianti per gli edifici esistenti, fanno carico agli stanziamenti previsti per la realizzazione dei singoli lavori negli stati di previsione della spesa o nei bilanci delle amministrazioni aggiudicatrici, nonché' degli altri enti aggiudicatori o realizzatori.

8. I progetti sono redatti in modo da assicurare il coordinamento della esecuzione dei lavori, tenendo conto del contesto in cui si inseriscono, con particolare attenzione, nel caso di interventi urbani, ai problemi della accessibilità e della manutenzione degli impianti e dei servizi a rete.

9. L'accesso per l'espletamento delle indagini e delle ricerche necessarie all'attività di progettazione è autorizzato dal sindaco del comune in cui i lavori sono localizzati ovvero dal prefetto in caso di opere statali.

Appendix IV

Art.93. *Livelli della progettazione per gli appalti e per le concessioni di lavori.*

(art. 16, L. n. 109/1994)

1. La progettazione in materia di lavori pubblici si articola, nel rispetto dei vincoli esistenti, preventivamente accertati, laddove possibile fin dal documento preliminare, e dei limiti di spesa prestabiliti, secondo tre livelli di successivi approfondimenti tecnici, in ***preliminare***, ***definitiva*** *ed* ***esecutiva***, in modo da assicurare:

a) la qualità dell'opera e la rispondenza alle finalità relative;

b) la conformità alle norme ambientali e urbanistiche;

c) il soddisfacimento dei requisiti essenziali, definiti dal quadro normativo nazionale e comunitario.

2. Le prescrizioni relative agli elaborati descrittivi e grafici contenute nei commi 3, 4 e 5 sono di norma necessarie per ritenere i progetti adeguatamente sviluppati. Il responsabile del procedimento nella fase di progettazione qualora, in rapporto alla specifica tipologia e alla dimensione dei lavori da progettare, ritenga le prescrizioni di cui ai commi 3, 4 e 5 insufficienti o eccessive, provvede a integrarle ovvero a modificarle. È consentita altresì l'omissione di uno dei primi due livelli di progettazione purché il livello successivo contenga tutti gli elementi previsti per il livello omesso e siano garantiti i requisiti di cui al comma 1, lettere a), b) e c).

3. Il progetto preliminare definisce le caratteristiche qualitative e funzionali dei lavori, il quadro delle esigenze da soddisfare e delle specifiche prestazioni da fornire e consiste in una relazione illustrativa delle ragioni della scelta della soluzione prospettata in base alla valutazione delle eventuali soluzioni possibili, anche con riferimento ai profili ambientali e all'utilizzo dei materiali provenienti dalle attività di riuso e riciclaggio, della sua fattibilità amministrativa e tecnica, accertata attraverso le indispensabili indagini di prima approssimazione, dei costi, da determinare in relazione ai benefici previsti, nonché in schemi grafici per l'individuazione delle caratteristiche dimensionali, volumetriche, tipologiche, funzionali e tecnologiche dei lavori da realizzare; il progetto preliminare dovrà inoltre consentire l'avvio della procedura espropriativa.

4. Il progetto definitivo individua compiutamente i lavori da realizzare, nel rispetto delle esigenze, dei criteri, dei vincoli, degli indirizzi e delle indicazioni stabiliti nel progetto preliminare e contiene tutti gli elementi necessari ai fini del rilascio delle prescritte autorizzazioni e approvazioni. Esso consiste in una relazione descrittiva dei criteri utilizzati per le scelte progettuali, nonché delle caratteristiche dei materiali prescelti e dell'inserimento delle opere sul territorio; nello studio di impatto ambientale ove previsto; in disegni generali nelle opportune scale

descrittivi delle principali caratteristiche delle opere, e delle soluzioni architettoniche, delle superfici e dei volumi da realizzare, compresi quelli per l'individuazione del tipo di fondazione; negli studi e indagini preliminari occorrenti con riguardo alla natura e alle caratteristiche dell'opera; nei calcoli preliminari delle strutture e degli impianti; in un disciplinare descrittivo degli elementi prestazionali, tecnici ed economici previsti in progetto nonché in un computo metrico estimativo.

Gli studi e le indagini occorrenti, quali quelli di tipo geognostico, idrologico, sismico, agronomico, biologico, chimico, i rilievi e i sondaggi, sono condotti fino ad un livello tale da consentire i calcoli preliminari delle strutture e degli impianti e lo sviluppo del computo metrico estimativo.

5. Il progetto esecutivo, redatto in conformità al progetto definitivo, determina in ogni dettaglio i lavori da realizzare e il relativo costo previsto e deve essere sviluppato ad un livello di definizione tale da consentire che ogni elemento sia identificabile in forma, tipologia, qualità, dimensione e prezzo. In particolare il progetto è costituito dall'insieme delle relazioni, dei calcoli esecutivi delle strutture e degli impianti e degli elaborati grafici nelle scale adeguate, compresi gli eventuali particolari costruttivi, dal capitolato speciale di appalto, prestazionale o descrittivo, dal computo metrico estimativo e dall'elenco dei prezzi unitari. Esso è redatto sulla base degli studi e delle indagini compiuti nelle fasi precedenti e degli eventuali ulteriori studi e indagini, di dettaglio o di verifica delle ipotesi progettuali, che risultino necessari e sulla base di rilievi planoaltimetrici, di misurazioni e picchettazioni, di rilievi della rete dei servizi del sottosuolo. Il progetto esecutivo deve essere altresì corredato da apposito piano di manutenzione dell'opera e delle sue parti da redigersi nei termini, con le modalità, i contenuti, i tempi e la gradualità stabiliti dal regolamento di cui all'articolo 5.

6. In relazione alle caratteristiche e all'importanza dell'opera, il regolamento, con riferimento alle categorie di lavori e alle tipologie di intervento e tenendo presenti le esigenze di gestione e di manutenzione, stabilisce criteri, contenuti e momenti di verifica tecnica dei vari livelli diprogettazione.

7. Gli oneri inerenti alla progettazione, alla direzione dei lavori, alla vigilanza e ai collaudi, nonché agli studi e alle ricerche connessi, gli oneri relativi alla progettazione dei piani di sicurezza e di coordinamento e dei piani generali di sicurezza quando previsti ai sensi del decreto legislativo 14 agosto 1996, n. 494, gli oneri relativi alle prestazioni professionali e specialistiche atte a definire gli elementi necessari a fornire il progetto esecutivo completo in ogni dettaglio, ivi compresi i rilievi e i costi riguardanti prove, sondaggi, analisi, collaudo di strutture e di impianti per gli edifici esistenti, fanno carico agli stanziamenti previsti per la realizzazione dei singoli lavori negli stati di previsione della spesa o nei bilanci delle stazioni appaltanti.

8. I progetti sono redatti in modo da assicurare il coordinamento dell'esecuzione dei lavori, tenendo conto del contesto in cui si inseriscono, con particolare attenzione, nel caso di interventi urbani, ai problemi della accessibilità e della manutenzione degli impianti e dei servizi a rete.

9. L'accesso per l'espletamento delle indagini e delle ricerche necessarie all'attività di progettazione è autorizzato ai sensi dell'articolo 15 del D.P.R. 8 giugno 2001, n. 327.

Appendix V

Art.203. *Progettazione.*

(art. 8, D.Lgs. n. 30/2004)

1. L'affidamento dei lavori indicati all'articolo 198, comma 1 e 2, è disposto, di regola, sulla base del progetto definitivo, integrato dal capitolato speciale e dallo schema di contratto.

2. L'esecuzione dei lavori può prescindere dall'avvenuta redazione del progetto esecutivo, che, ove sia stata ritenuta necessaria in relazione alle caratteristiche dell'intervento e non venga effettuata dalla stazione appaltante, è effettuata dall'appaltatore ed è approvata entro i termini stabiliti con il bando di gara o con lettera di invito. Resta comunque necessaria la redazione del piano di manutenzione.

3. Per i lavori concernenti beni mobili e superfici decorate di beni architettonici e scavi archeologici sottoposti alle disposizioni di tutela di beni culturali, il contratto di appalto che prevede l'affidamento sulla base di un progetto preliminare o definitivo può comprendere oltre all'attività di esecuzione, quella di progettazione successiva al livello previsto a base dell'affidamento laddove ciò venga richiesto da particolari complessità, avendo riguardo alle risultanze delle indagini svolte.

3-bis. Per ogni intervento, il responsabile del procedimento, nella fase di progettazione preliminare, stabilisce il successivo livello progettuale da porre a base di gara e valuta motivatamente, esclusivamente sulla base della natura e delle caratteristiche del bene e dell'intervento

conservativo, la possibilità di ridurre i livelli di definizione progettuale ed i relativi contenuti dei vari livelli progettuali, salvaguardandone la qualità.

3-ter. La progettazione esecutiva può essere omessa nelle seguenti ipotesi:

a) per i lavori su beni mobili e superfici architettoniche decorate che non presentino complessità realizzative;

b) negli altri casi, qualora il responsabile del procedimento accerti che la natura e le caratteristiche del bene, ovvero il suo stato di conservazione, siano tali da non consentire l'esecuzione di analisi e rilievi esaustivi; in tali casi, il responsabile del procedimento dispone che la progettazione esecutiva sia redatta in corso d'opera, per stralci successivi, sulla base dell'esperienza delle precedenti fasi di progettazione e di cantiere.

4. Il responsabile del procedimento verifica il raggiungimento dei livelli di progettazione richiesti e valida il progetto da porre a base di gara e in ogni caso il progetto esecutivo previsto nei commi da 1, 2 e 3.

Appendix VI

Decreto Legislativo del 18 aprile 2016, n. 50

Art. 23 Livelli della progettazione per gli appalti, per le concessioni di lavori nonché per i servizi

In vigore dal 19 aprile 2016

1. La progettazione in materia di lavori pubblici si articola, secondo tre livelli di successivi approfondimenti tecnici, in progetto di fattibilità tecnica ed economica, progetto definitivo e progetto esecutivo ed è intesa ad assicurare:

a) il soddisfacimento dei fabbisogni della collettività;

b) la qualità architettonica e tecnico funzionale e di relazione nel contesto dell'opera;

c) la conformità alle norme ambientali, urbanistiche e di tutela dei beni culturali e paesaggistici, nonché il rispetto di quanto previsto dalla normativa in materia di tutela della salute e della sicurezza;

d) un limitato consumo del suolo;

e) il rispetto dei vincoli idro-geologici, sismici e forestali nonché degli altri vincoli esistenti;

f) il risparmio e l'efficientamento energetico, nonché la valutazione del ciclo di vita e della manutenibilità delle opere;

g) la compatibilità con le preesistenze archeologiche;

h) la razionalizzazione delle attività di progettazione e delle connesse verifiche attraverso il progressivo uso di metodi e strumenti elettronici specifici quali quelli di modellazione per l'edilizia e le infrastrutture;

i) la compatibilità geologica, geomorfologica, idrogeologica dell'opera;

l) accessibilità e adattabilità secondo quanto previsto dalle disposizioni vigenti in materia di barriere architettoniche;

2. Per la progettazione di lavori di particolare rilevanza sotto il profilo architettonico, ambientale, paesaggistico, agronomico e forestale, storico-artistico, conservativo, nonché tecnologico, le stazioni appaltanti ricorrono alle professionalità interne, purché in possesso di idonea competenza nelle materie oggetto del progetto o utilizzano la procedura del concorso di progettazione o del concorso di idee di cui agli articoli 152, 153, 154, 155, 156 e 157. Per le altre tipologie di lavori, si applica quanto previsto dall'articolo 24.

3. Con decreto del Ministro delle infrastrutture e trasporti, su proposta del Consiglio superiore dei lavori pubblici, di concerto con il Ministro dell'ambiente e della tutela del territorio e del mare e del Ministro dei beni e delle attività culturali e del turismo sono definiti i contenuti della progettazione nei tre livelli progettuali. Fino alla data di entrata in vigore di detto decreto, si applica l'articolo 216, comma 4.

4. La stazione appaltante, in rapporto alla specifica tipologia e alla dimensione dell'intervento, indica le caratteristiche, i requisiti gli elaborati progettuali necessari per la definizione di ogni fase della progettazione. E' consentita, altresì, l'omissione di uno o di entrambi i primi due livelli di progettazione, purché il livello successivo contenga tutti gli elementi previsti per il livello omesso, salvaguardando la qualità della progettazione.

5. Il progetto di fattibilità tecnica ed economica individua, tra più soluzioni, quella che presenta il miglior rapporto tra costi e benefici per la collettività, in relazione alle specifiche esigenze da soddisfare e prestazioni da fornire. Il progetto di fattibilità comprende tutte le indagini e gli studi necessari per la definizione degli aspetti di cui al comma 1, nonché schemi grafici per l'individuazione delle caratteristiche dimensionali, volumetriche, tipologiche, funzionali e tecnologiche dei lavori da realizzare e le relative stime economiche, ivi compresa la scelta in merito alla possibile suddivisione in lotti funzionali. Il progetto di fattibilità deve consentire, ove necessario, l'avvio della procedura espropriativa.

6. Il progetto di fattibilità è redatto sulla base dell'avvenuto svolgimento di indagini geologiche e geognostiche, di verifiche preventive dell'interesse archeologico, di studi preliminari sull'impatto ambientale e evidenzia, con apposito adeguato elaborato cartografico, le aree impegnate, le relative eventuali fasce di rispetto e le occorrenti misure di salvaguardia; indica, inoltre, le caratteristiche prestazionali, le specifiche funzionali, le esigenze di compensazioni e di mitigazione dell'impatto ambientale, nonché i limiti di spesa dell'infrastruttura da realizzare ad un livello tale da consentire, già in sede di approvazione del progetto medesimo, salvo circostanze imprevedibili, l'individuazione della localizzazione o del tracciato dell'infrastruttura nonché delle opere compensative o di mitigazione dell'impatto ambientale e sociale necessarie.

7. Il progetto definitivo individua compiutamente i lavori da realizzare, nel rispetto delle esigenze, dei criteri, dei vincoli, degli indirizzi e delle indicazioni stabiliti dalla stazione

appaltante e, ove presente, dal progetto di fattibilità; il progetto definitivo contiene, altresì, tutti gli elementi necessari ai fini del rilascio delle prescritte autorizzazioni e approvazioni, nonché la quantificazione definitiva del limite di spesa per la realizzazione e del relativo cronoprogramma, attraverso l'utilizzo, ove esistenti, dei prezzari predisposti dalle regioni e dalle province autonome territorialmente competenti, di concerto con le articolazioni territoriali del Ministero delle infrastrutture e dei trasporti,

8. Il progetto esecutivo, redatto in conformità al progetto definitivo, determina in ogni dettaglio i lavori da realizzare, il relativo costo previsto, il cronoprogramma coerente con quello del progetto definitivo, e deve essere sviluppato ad un livello di definizione tale che ogni elemento sia identificato in forma, tipologia, qualità, dimensione e prezzo. Il progetto esecutivo deve essere, altresì, corredato da apposito piano di manutenzione dell'opera e delle sue parti in relazione al ciclo di vita.

9. In relazione alle caratteristiche e all'importanza dell'opera, il responsabile unico del procedimento, secondo quanto previsto dall'articolo 26, stabilisce criteri, contenuti e momenti di verifica tecnica dei vari livelli di progettazione.

10. L'accesso ad aree interessate ad indagini e ricerche necessarie all'attività di progettazione è soggetto all'autorizzazione di cui all'articolo 15 del decreto del Presidente della Repubblica 8 giugno 2001, n. 327. La medesima autorizzazione si estende alle ricerche archeologiche, alla bonifica di ordigni bellici e alla bonifica dei siti inquinati. Le ricerche archeologiche sono compiute sotto la vigilanza delle competenti soprintendenze.

11. Gli oneri inerenti alla progettazione, alla direzione dei lavori, alla vigilanza, ai collaudi, agli studi e alle ricerche connessi, alla redazione dei piani di sicurezza e di coordinamento, quando previsti ai sensi del decreto legislativo 9 aprile 2008, n. 81, alle prestazioni professionali e specialistiche, necessari per la redazione di un progetto esecutivo completo in ogni dettaglio, possono essere fatti gravare sulle disponibilità finanziarie della stazione appaltante cui accede la progettazione medesima.

12. Le progettazioni definitiva ed esecutiva sono, preferibilmente, svolte dal medesimo soggetto, onde garantire omogeneità e coerenza al procedimento. In caso di motivate ragioni di affidamento disgiunto, il nuovo progettista deve accettare l'attività progettuale svolta in precedenza. In caso di affidamento esterno della progettazione che ricomprenda, entrambi livelli di progettazione, l'avvio della progettazione esecutiva è condizionato alla determinazione delle stazioni appaltanti sulla progettazione definitiva. In sede di verifica della coerenza tra le varie fasi della progettazione, si applica quanto previsto dall'articolo 26, comma 3.

13. Le stazioni appaltanti possono richiedere per le nuove opere nonché per interventi di recupero, riqualificazione o varianti, prioritariamente per i lavori complessi, l'uso dei metodi e strumenti elettronici specifici di cui al comma 1, lettera h).Tali strumenti utilizzano piattaforme interoperabili a mezzo di formati aperti non proprietari, al fine di non limitare la concorrenza tra i fornitori di tecnologie e il coinvolgimento di specifiche progettualità tra i progettisti. L'uso, dei metodi e strumenti elettronici può essere richiesto soltanto dalle stazioni appaltanti dotate di personale adeguatamente formato. Con decreto del Ministero delle infrastrutture e dei trasporti, da adottare entro il 31 luglio 2016, anche avvalendosi di una Commissione appositamente istituita presso il medesimo Ministero, senza oneri aggiuntivi a carico della finanza pubblica sono definiti le modalità e i tempi di progressiva introduzione dell'obbligatorietà dei suddetti metodi presso le stazioni appaltanti, le amministrazioni concedenti e gli operatori economici, valutata in relazione alla tipologia delle opere da affidare e della strategia di

digitalizzazione delle amministrazioni pubbliche e del settore delle costruzioni. L'utilizzo di tali metodologie costituisce parametro di valutazione dei requisiti premianti di cui all'articolo 38.

14. La progettazione di servizi e forniture è articolata, di regola, in un unico livello ed è predisposta dalle stazioni appaltanti, di regola, mediante propri dipendenti in servizio. In caso di concorso di progettazione relativa agli appalti, la stazione appaltante può prevedere che la progettazione sia suddivisa in uno o più livelli di approfondimento di cui la stessa stazione appaltante individua requisiti e caratteristiche.

15. Per quanto attiene agli appalti di servizi, il progetto deve contenere: la relazione tecnico - illustrativa del contesto in cui è inserito il servizio; le indicazioni e disposizioni per la stesura dei documenti inerenti alla sicurezza di cui all'articolo 26, comma 3, del decreto legislativo n. 81 del 2008; il calcolo degli importi per l'acquisizione dei servizi, con indicazione degli oneri della sicurezza non soggetti a ribasso; il prospetto economico degli oneri complessivi necessari per l'acquisizione dei servizi; il capitolato speciale descrittivo e prestazionale, comprendente le specifiche tecniche, l'indicazione dei requisiti minimi che le offerte devono comunque garantire e degli aspetti che possono essere oggetto di variante migliorativa e conseguentemente, i criteri premiali da applicare alla valutazione delle offerte in sede di gara, l'indicazione di altre circostanze che potrebbero determinare la modifica delle condizioni negoziali durante il periodo di validità, fermo restando il divieto di modifica sostanziale. Per i servizi di gestione dei patrimoni immobiliari, ivi inclusi quelli di gestione della manutenzione e della sostenibilità energetica, i progetti devono riferirsi anche a quanto previsto dalle pertinenti norme tecniche.

16. Per i contratti relativi a lavori, servizi e forniture, il costo del lavoro è determinato annualmente, in apposite tabelle, dal Ministero del lavoro e delle politiche sociali sulla base dei valori economici definiti dalla contrattazione collettiva nazionale tra le organizzazioni sindacali e le organizzazioni dei datori di lavoro comparativamente più rappresentativi, delle norme in materia previdenziale ed assistenziale, dei diversi settori merceologici e delle differenti aree territoriali. In mancanza di contratto collettivo applicabile, il costo del lavoro è determinato in relazione al contratto collettivo del settore merceologico più vicino a quello preso in considerazione. Fino all'adozione delle tabelle di cui al presente comma, si applica l'articolo 216, comma 4.

Apendix VII

Legge n. 2359 del 25 giugno 1865: espropriazioni per causa pubblica

Pubblicata nella Gazzetta Ufficiale dell'8 luglio 1865

Espropriazioni per causa di utilità pubblica

Art. 3 [Qualunque domanda che venga fatta da Province, da Comuni, da corpi morali, o da privati, per ottenere la dichiarazione di pubblica utilità, deve essere accompagnata da una relazione sommaria, la quale indichi la natura e lo scopo delle opere da eseguirsi, la spesa presunta, i mezzi di esecuzione e il termine entro il quale saranno finite.

Deve inoltre tale domanda essere corredata di un piano di massima che contenga la descrizione dell'insieme delle opere e dei terreni che esse devono occupare] (5).

(5) La presente legge è stata abrogata dall'art. 58, D.Lgs. 8 giugno 2001, n. 325, con la decorrenza indicata nell'art. 59 dello stesso decreto e dall'art. 58, D.P.R. 8 giugno 2001, n. 327, con la decorrenza indicata nell'art. 59 dello stesso decreto. L'abrogazione è stata confermata dall'art. 24, D.L. 25 giugno 2008, n. 112.

Art. 4 [La domanda per ottenere che un'opera sia dichiarata di pubblica utilità, deve preventivamente pubblicarsi in ciascun Comune in cui l'opera stessa vuol essere eseguita, ed inserirsi per estratto nel Giornale officiale per le pubblicazioni amministrative della Provincia (6). Per 15 giorni almeno, da computarsi dalla data delle suddette pubblicazioni ed inserzioni, la relazione ed il piano di massima, accennati nell'articolo precedente, debbono rimanere depositati nell'Ufficio del Comune ove l'opera dovrà essere eseguita. Qualora l'opera sia per toccare il territorio di più Comuni, potrà bastare il deposito della relazione e del piano di massima nel capo-luogo del circondario presso l'Ufficio di Prefettura o di Sotto-Prefettura (7).

Il luogo, la durata e lo scopo del suddetto deposito deve indicarsi in ciascuna delle pubblicazioni ed inserzioni suaccennate] (8).
(6) Ora Foglio degli annunzi legali della Provincia.

(7) Le Sottoprefetture sono state abolite dal R.D.L. 2 gennaio 1927, n. 1 e le loro funzioni sono state attribuite alle Prefetture.
(8) La presente legge è stata abrogata dall'art. 58, D.Lgs. 8 giugno 2001, n. 325, con la decorrenza indicata nell'art. 59 dello stesso decreto e dall'art. 58, D.P.R. 8 giugno 2001, n. 327, con la decorrenza indicata nell'art. 59 dello stesso decreto. L'abrogazione è stata confermata dall'art. 24, D.L. 25 giugno 2008, n. 112.

Art. 5 [Durante il termine stabilito dall'articolo precedente, chiunque può prendere conoscenza della relazione e del piano depositati nell'Ufficio del Comune o della Prefettura o della Sotto-Prefettura (9), e fare le sue osservazioni.
Il promovente la dichiarazione di pubblica utilità può, a sua volta, aver conoscenza delle fatte osservazioni, e presentare osservazioni di risposta.
Il modo in cui dovranno proporsi, raccogliersi e trasmettersi le osservazioni e le risposte e gli altri particolari relativi, saranno determinati nel

regolamento di amministrazione da pubblicarsi per l'esecuzione della presente legge (10)] (11). (9) Le Sottoprefetture sono state abolite dal R.D.L. 2 gennaio 1927, n. 1 e le loro funzioni sono state attribuite alle Prefetture. (10) Tale regolamento non è stato emanato.

(11) La presente legge è stata abrogata dall'art. 58, D.Lgs. 8 giugno 2001, n. 325, con la decorrenza indicata nell'art. 59 dello stesso decreto e dall'art. 58, D.P.R. 8 giugno 2001, n. 327, con la decorrenza indicata nell'art. 59 dello stesso decreto. L'abrogazione è stata confermata dall'art. 24, D.L. 25 giugno 2008, n. 112.

Art. 6 [Il disposto dagli artt. 4 e 5 non è applicabile quando la dichiarazione di pubblica utilità debba essere fatta per legge] (12). (12) La presente legge è stata abrogata dall'art. 58, D.Lgs. 8 giugno 2001, n. 325, con la decorrenza indicata nell'art. 59 dello stesso decreto e dall'art. 58, D.P.R. 8 giugno 2001, n. 327, con la decorrenza indicata nell'art. 59 dello stesso decreto. L'abrogazione è stata confermata dall'art. 24, D.L. 25 giugno 2008, n. 112.

Art. 7 [Gli ingegneri, gli architetti ed i periti incaricati della formazione del progetto di massima, potranno introdursi nelle proprietà private, e procedere alle operazioni planimetriche e ad altri lavori preparatorii dipendenti dal ricevuto incarico, purché siano muniti di un decreto del Prefetto o del Sotto-Prefetto (13), nella cui Provincia o circondario debbonsi fare le suddette operazioni, e ne sia dato tre giorni prima avviso ai proprietari.

I Prefetti ed i Sotto-Prefetti, prima di rilasciare tale decreto, dovranno accertarsi se gli studi furono debitamente autorizzati dall'Autorità competente nei casi in cui ciò è richiesto.

L'avviso ai proprietari sarà dato a cura del Sindaco ed a spese di chi ordinò gli studi, e dovrà indicare i nomi delle persone cui è concessa la facoltà di introdursi nelle proprietà private.

Se trattasi di luoghi abitati, il Sindaco, sulla istanza delle parti interessate, fisserà il tempo ed il modo con cui la facoltà concessa può essere esercitata.

Il Sindaco potrà far assistere a quelle operazioni una persona da lui delegata.

Coloro che intraprendono le suddette operazioni saranno obbligati a risarcire qualunque danno recato ai proprietari, e per assicurare il pagamento di questa indennità, potranno i Prefetti e Sotto-Prefetti (14) prescrivere il preventivo deposito di una congrua somma] (15). (13) Vedi nota 3 all'art. 4 di questo provvedimento. (14).

Vedi nota 3 all'art. 4 di questo provvedimento. (15) La presente legge è stata abrogata dall'art. 58, D.Lgs. 8 giugno 2001, n. 325, con la decorrenza indicata nell'art. 59 dello stesso decreto e dall'art. 58, D.P.R. 8 giugno 2001, n. 327, con la decorrenza indicata nell'art. 59 dello stesso decreto. L'abrogazione è stata confermata dall'art. 24, D.L. 25 giugno 2008, n. 112.

Appendix A

Design and integrated procurement (Articles 41 e 44)

The design and project levels have been redefined, merging and reducing the three design levels provided for by the 2016 Code into two levels. The two levels are the technical and economic feasibility project, and the executive project. Reducing to two levels should decrease the length of the approval processes and, more generally, simplify and accelerate procedures.

For ordinary and extraordinary maintenance, the omission of the first level of design is allowed, if the executive project contains all the elements provided for in the omitted level.

Marking a clear turnaround regarding the centrality of the design and project compared to the previous discipline, the use of integrated procurement has been liberalized. So awarding authorities can proceed with the joint awarding of the executive project and execution of works based on an approved technical-economic feasibility project. It will only be necessary to provide evidence of the technical reasons for using integrated procurement.

The only exception to integrated procurement refers to contracts for ordinary maintenance works, with respect to which this option cannot be exercised.

Glossary

The Great Recession: The Global Financial Crisis of 2008-2009 refers to the massive financial crisis the world faced from 2008 to 2009. The financial crisis took its toll on individuals and institutions around the globe, with millions of American being deeply impacted. Financial

institutions started to sink, many were absorbed by larger entities, and the US Government was forced to offer bailouts to keep many institutions afloat.

The crisis, often referred to as “The Great Recession,” didn’t happen overnight. There were many factors present leading up to the crisis, and their effects linger to this day. Let’s take a look at a brief outline of the Global Financial Crisis of 2009-2009.

Leistungsbeschreibung: German term for 'Performance Description' in procurement, defining contract subject matter characteristics in terms of performance or functional requirements.

Technical Specifications: Detailed characteristics of a product or service in procurement, including quality levels, environmental and climate performance, design for all, conformity assessment, performance, usability, safety, dimensions, and more.

Design for All Needs: Concept emphasizing universal accessibility in the design of products, services, or works, catering to all individuals regardless of abilities or disabilities.

Quality Assurance Procedures: Methods ensuring the quality of materials, products, or activities, considering social, labor, environmental, and climatic impacts.

Environmental and Climate Performance Levels: Standards related to a product's or service's environmental impact and adherence to climate-related norms.

Conformity Assessment: Process of ensuring a product, service, or work meets specified standards and benchmarks.

Planungswettbewerbe: German term for 'Planning Competitions,' aimed at obtaining alternative planning proposals, especially in spatial, urban, and construction planning.

Progetto di Fattibilità Tecnica ed Economica: Italian for 'Technical and Economic Feasibility Project,' the initial stage of the design process assessing a project's feasibility.

Progetto Definitivo: Italian for 'Definitive Project,' a stage in procurement describing the main characteristics of the intervention with detailed graphics.

Progetto Esecutivo: Italian for 'Executive Project,' focusing on the detailed execution of the project, providing the most comprehensive specifications and plans.

Quadro Esigenziale (Framework of Needs): Refers to the essential requirements and quality considerations of a procurement project.

Budget and Financial Considerations: Aspects of a project involving cost estimation, financial feasibility, and transparency.