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Master of Science in

Management, Economics and Industrial Engineering

Work On Security Issues and Warehouse Management at LUCITALIA S.r.l

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Abstract

The company Lucitalia has just done some asset restructuring in last year, this year Lucitalia begins some new business/cooperation with new partner, so there should be a lot of changes for the company in terms of supply chain, production and every little functional sector.

At the very beginning of my internship, my main job in the company was to assist its logistic staff In order to insert data to the system, to collect useful information and to support their decisions. Later on I also assisted the production staff to report how the company works in some specific sectors, and another job to help the catalog staff to manage changes of the company.

In this project report I will only describe and make a summary of two main jobs among them:

1. Work on security: Interview with responsible person, map processes of anti-fire and waste issue, have a look at the Italian laws and obligations to understand which kind of work is required, analyze problems comparing the current situation with the laws and obligations, provide improvement suggestions.

2. Work on warehouse management: Understand their main logistic processes, collect data of the shelves, measure the size and count the storage capacity of the shelves, analyze the problems, providing possible solutions, expected results.

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1

INTRODUCTION

1.1 Introduction of the company

Figure 1 – 1 Products and label of the company Lucitalia

“LUCI illuminazione d’interni (indoor lighting)” was founded in 1966 and quickly became one of the most original and innovative manufacturers of modern design products.

LUCI’s notoriety raised to an International level with the creation of the Kandido table lamp in 1983 designed in collaboration with Ferdinand Alexander Porsche.

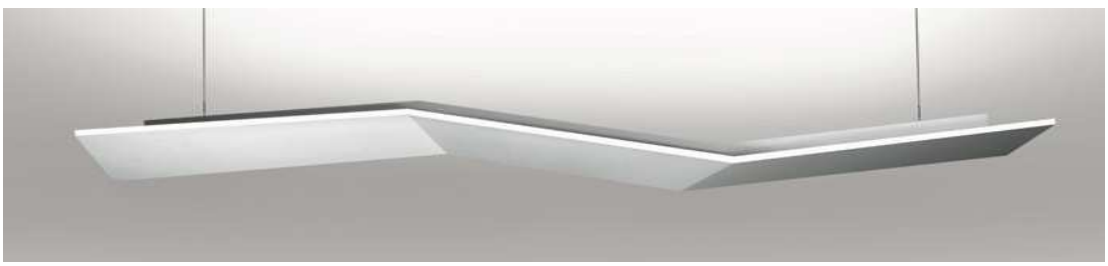
The list of prestigious designers who have collaborated with LUCI in its continual search for innovative designs include: Gianfranco Frattini with Abele, Adonis, Caltha, Ignazio; Toshiyuki Kita with Tomo, Giugiaro Design with Poe and Lucifaro, Rodolfo Bonetto with Rio, Flu and Todo.

In 1989 LUCI changed into LUCITALIA in order to remark the excellence of Made in Italy products. Over the years LUCITALIA evolved never losing its strong identity as a producer of high quality decorative modern design products which are functional and respect safety norms.

The LUCITALIA product range includes lighting fixtures and systems which lend prestige to any space (residential, executive office spaces, retail shops and windows, art galleries, etc.).

More recent additions to the collection have been designed in the 90s such as the Accademia, Olla, Menhir, Stresa, Kri/Kriter systems, Karma and Krisma, designed by Asahara Sigeaki, and the Pragma, Zero series created by Francesco Brivio.

During the last few years LUCITALIA’ collection has been developed with names such as Carlo Forcolini & Giancarlo Fassina with Larossa, Ikaru Mori with Adam, Fabio Princivalle with KM, Serge & Robert Cornelissen with Mono, Queen, Gabi Peretto with Ketamina, Diamond, Montenapoleone which created popular and successful items rounding out the LUCITALIA collection.



Mission

LUCITALIA MILANO manufactures high quality Design and Professional interior lighting fixtures characterized by innovative design, technology and materials which are at the cutting edge of style trends and meet project requirements at the best market value.

Vision

LUCITALIA MILANO improves the quality of people's lives and the spaces in which they live by conceiving and designing high comfort lighting fixtures.

1.2 Objectives & Scope of the project

The company Lucitalia has just done some asset restructuring in last year, this year Lucitalia begins some new business/cooperation with new partner, so there should be a lot of changes for the company in terms of supply chain, production and every little functional sectors.

At the very beginning of my internship, my main job in the company is to assist their logistic staff to insert data to the system, to collect useful information to support their decision. Later on I also assisted the production staff to report how the company works in some specified sectors, and another job to help the catalog staff to manage the changes of the company.

In detail:

----Helping the purchasing/supply chain staff to insert the information of order into the system.

----I did a work on calculating the warehouse's capacity (collecting datas) to support manager's decision of changing the layout and increasing the space utilization rate of the warehouse. And also I provide some other suggestions

----Help the Catalog staff to manage the changes of the catalog (in terms of the prices, different products families)

----Did a report of how the company works before in terms of "security" and "flow of materials/products" which mentioned the quality control of the materials arrived and the finished products with 2 other internship students, and then analyze the problems, provide some possible improvement actions.

And in this project report I will only describe and make a report of two main jobs among them:

1. Work on security: Interview with responsible person, map the processes of anti-fire and waste issue, have a look at the Italian laws and obligations to understand which kind of work are required, analyze the problems comparing the current situation with the laws and obligations, provide improvement suggestions.

2. Work on warehouse management: Understand their main logistic processes, collect data of the shelves, measure the size and count the storage capacity of the shelves, analyze the problems, providing possible solutions, expected results (financial assessment)

2

WORK ON SECURITY

2.1 Theory part of enterprise security management

2.1.1 Definition& International standards

Enterprise Security Management can also be called Occupational Health and Safety Management

Safety in the workplace consists of all the series of prevention and protection measures (technical, organizational and procedural), which must be taken by the employer, his co-workers (managers and supervisors), doctors, and the workers themselves.

A typical example of a dangerous situation: a worker is working on an electrical circuit, he's overlooking the canal, while the fellow holding the ladder under his foot.

The measures of health and safety of workers are intended to improve working conditions, reduce the possibility of injury to employees, other workers, external collaborators (subcontractors) and how often they happen, even occasionally, within the Company. Measures of hygiene and health protection must be taken to protect workers from possible health hazards such as industrial accidents and occupational diseases, as well as the general population and the environment.

Since 1950, the International Labour Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health. It was adopted by the Joint ILO/WHO Committee on Occupational Health at its first session in 1950 and revised at its twelfth session in 1995.

The definition reads:

"Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize, the adaptation of work to man and of each man to his job

The main focus in occupational health is on three different objectives:

1. The maintenance and promotion of workers' health and working capacity;
2. The improvement of working environment and work to become conducive to safety and health and
3. Development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings.

The concept of working culture is intended in this context to mean a reflection of

the essential value systems adopted by the undertaking concerned. Such a culture is reflected in practice in the managerial systems, personnel policy, principles for participation, training policies and quality management of the undertaking."

There are three reasons occupational safety and health is a concern:

1. Duty of reasonable care; unacceptability of putting health and safety of people at risk; society's attitude to moral obligations; making the moral case to senior management.
2. The preventive (enforcement), punitive (through criminal sanctions), and compensatory effects of law
3. Direct and indirect costs associated with incidents and/or unhealthy workplaces and their impact on the organization (includes insured and un-insured costs)

International Standards:

The International Labour Organization (ILO): published a standard in 2001 titled ILO-OSH 2001, which is similar to OHSAS 18001. The system is based on five steps Policy, Organizing, Planning & Implementation, Evaluation, and Action for improvement. This is supported by auditing with an emphasis on continuous improvement. The ILO management system was created to assist employers to keep pace with rapidly shifting and competitive industrial environments. The ILO recognizes that national legislation is essential, but sometimes insufficient on its own to address the challenges faced by industry, and therefore elected to ensure free and open distribution of administrative tools in the form of occupational health and safety management system guidance for everyone. This open access forum is intended to provide the tools for industry to create safe and healthy working environments and foster positive safety cultures within the organizations.

OHSAS 18000 is an international occupational health and safety management system specification. It comprises two parts, 18001 and 18002 and embraces a number of other publications. OHSAS 18000 is the internationally recognized assessment specification for occupational health and safety management systems. It was developed by a selection of leading trade bodies, international standards and certification bodies to address a gap where no third-party certifiable international standard exists. This internationally recognized specification for occupational health and safety management system operates on the basis of policy, planning, implementation and operation, checking and corrective action, management review, and continual improvement.

European Union:

In the European Union, member states have enforcing authorities to ensure that the basic legal requirements relating to occupational health and safety are met. In many EU countries, there is strong cooperation between employer and worker organizations (e.g. unions) to ensure good OSH performance as it is recognized this has benefits for both the worker (through maintenance of health) and the enterprise (through improved

productivity and quality). In 1996, the European Agency for Safety and Health at Work was founded.

Member states of the European Union have all transposed into their national legislation a series of directives that establish minimum standards on occupational health and safety. These directives (of which there are about 20 on a variety of topics) follow a similar structure requiring the employer to assess the workplace risks and put in place preventive measures based on a hierarchy of control. This hierarchy starts with elimination of the hazard and ends with personal protective equipment.

However, certain EU member states admit to having lacking quality control in occupational safety services, to situations in which risk analysis takes place without any on-site workplace visits and to insufficient implementation of certain EU OSH directives. Based on this, it is hardly surprising that the total societal costs of work-related health problems and accidents vary from 2.6% to 3.8% of GNP between the EU member states.

For example, The British Standards - Occupational Health and Safety management Systems Requirements Standard BS OHSAS 18001 was developed within the framework of the ISO standards series. Allowing it to integrate better into the larger system of ISO certifications. ISO 9001 Quality Management Systems and ISO 14001 Environmental Management System can work in tandem with BS OHSAS 18001/18002 to complement each other and form a better overall system. Each component of the system is specific, auditable, and accreditable by a third party after review.

Also Standards Australia and the Association Française de Normalisation (AFNOR) in France have developed occupational safety and health management standards.

Different states take different approaches to legislation, regulation, and enforcement. Also economic incentives for compliance to rules and general good occupational safety and health practice vary among nations. In the EU, for example, some member states promote OSH by providing public monies as subsidies, grants or financing, while others have created tax system incentives for OSH investments. A third group of EU member states has experimented with using workplace accident insurance premium discounts for companies or organizations with strong OSH records.

Because different countries take different approaches to ensuring occupational safety and health, areas of OSH need and focus also vary between countries and regions. Similar to the findings of the ENHSPO survey conducted in Australia, the Institute of Occupational Medicine found that in the UK, there is a need to put a greater emphasis on work-related illness. In contrast, in Australia and the USA a major responsibility of the OHS professional is to keep company directors and managers aware of the issues that they face in regards to Occupational Health and Safety principles and legislation. However, in some other areas of Europe, it is precisely this which has been lacking: “Nearly half of senior managers and company directors do not have an up-to-date understanding of their health and safety-related duties and

responsibilities."

Number of full-time OSH inspectors per 100,000 full-time employees	
Italy	17,7
Finland	17,5
Denmark	11,9
UK	11,1
Norway	10,6
Sweden	10
Belgium	5,3
Netherlands	4,8
Ireland	4,5
Greece	4,1
France	3,5
Spain	2,1

Table 2.1 - The number of OSH personnel used to ensure compliance to OSH rules varies markedly between countries.

We can notice that the average numbers of OSH inspectors per million workers are higher in Europe, and among them, Italy is the one who has done the best job. So let's see the reason behind these figures.

2.1.2 Italian Standards & Obligations for employees

Italian Standards:

In Italy, health and safety at work is regulated by the Legislative Decree 81/2008 (known as the Consolidated Workplace Safety), which entered into force May 15th, 2008, and its remedial provisions, or by the "Decree 106/2009". This decree, which has had many previous regulatory history (dating back to 1955 and 1956) and others more recent (Legislative Decree 626/1994), implements in Italy, the European Directives (August 3, 2007, n. 123) concerning the protection safety and health of workers, coordinate them into a single law, which provides for specific penalties on defaulters.

In detail, the regulations also describe the general measures of protection and safety The general measures of health and safety of workers in the workplace are:

A) The assessment of any risks to health and safety;

B) The planning of prevention, aimed at a complex plan which integrates in a coherent way preventing not only the technical production of the company and also the influence of environment factors and work organization;

C) The elimination of risks and, if this is not possible, to minimize them with the knowledge based on technical progress;

D) Respect the principles of ergonomics in work, in the design of workplaces, the choice of equipment and in the definition of working methods and production, in particular in order to reduce the health effects of monotonous and repetitive work;

E) Reduction of risks at source ;

F) Replacing the dangerous with what is not, or less dangerous;

G) The restriction to a minimum the number of workers who are, or who may be at risk;

H) The limited use of the chemical, physical and biological things at working place;

I) The priority of collective protective measures over individual protective measures;

L) The medical surveillance of workers;

M) The withdrawal of the worker from exposure to the risk for his personal health reasons and the habits, where possible, to another job;

N) Information and adequate training for workers;

O) The appropriate information and training for managers and responsible;

P) The appropriate information and training for representatives of workers' safety;

Q) The appropriate instructions to workers;

R) Participation and consultation of workers;

S) Participation and consultation of representatives of workers' safety;

T) The scheduling of any necessary measures to ensure the eventual improvement in safety levels, including through the adoption of codes of conduct and good practice;

U) The measures to be implemented in case of emergency first aid, fire fighting, evacuation of workers and serious and imminent danger;

V) Use of warning signs and safety;

Z) The regular maintenance of environments, equipment, facilities, with particular reference to safety devices in accordance with the manufacturers' indications.

Obligations of the employer and the manager:

The employer, carrying on the activities and managers, who organize and conduct the same activities as the functions and powers conferred on them, must:

A) Appoint the physician responsible for the conduct of health surveillance in cases envisaged by this decree.

B) Designate in advance the workers responsible for implementing fire prevention and fire fighting, evacuation of the workplace in the event of a serious and imminent danger, rescue, first aid and, anyway, for emergency management;

C) Entrusting tasks to employees, take into account the capacity and conditions thereof in relation to their health and safety;

D) Providing workers with the necessary and appropriate personal protective equipment, hearing the person in charge of prevention and protection and the physician

in charge, if any;

E) Take appropriate measures to ensure that only workers who have received adequate instructions and training to access to specific areas that expose them to a serious and specific risk;

F) Require compliance by individual employees of the existing rules and provisions of corporate safety and occupational hygiene and use of collective means of protection and personal protective equipment available to them;

G) Send workers to the medical examination within the time provided by the health surveillance program and ask the company doctor as the fulfillment of obligations incurred in the present decree;

H) In cases of health surveillance, promptly notify the competent medical termination of employment;

I) Take measures to control risk situations in an emergency and give instructions to workers in case of serious, imminent and unavoidable, leave the job or the danger zone;

J) Inform as soon as possible to workers exposed to the risk of a serious and immediate about the risk and of the steps taken or protection;

K) Fulfill the obligations of information, education and training;

L) Refrain, except where duly justified by the need to protect the health and safety, from requiring workers to resume their activities in a work situation where there remains a serious and imminent danger;

M) Enable workers to verify, through the representative of the workers' safety, the application of security measures and health protection;

N) Promptly deliver to the representative of the workers' safety, at their request and to carry out its function, a copy of the document even on computer and allow the same representative to access the data, the document is consulted only in the company;

O) Process the document even on computer and, at their request and to carry out its function to return a copy promptly to the representatives of workers' safety. The document is seen only in the company.

P) Take appropriate steps to ensure that the technical measures may result in risk to public health or degrade the environment periodically verifying the continued absence of risk;

Q) Communicate electronically the national information system for the prevention in the workplace within 48 hours of receiving the medical certificate, for statistical information, data and information relating to accidents involving absence from work of at least one day, excluding event and, for insurance purposes, those relating to work accidents involving absence from work for more than three days;

R) Consult the workers' representative for safety

S) Take the measures necessary for the purposes of fire prevention and evacuation of the workplace, as well as for the case of serious and imminent danger. These measures must be adapted to the nature of the activity, the size of the farm or production unit, and the number of people present;

T) As part of conducting business under the contract and subcontracts, provide workers with appropriate identification card, bearing a photograph, containing

particulars of the worker and the indication of the employer;

U) In production units with more than 15 workers, to convene the regular meeting.

V) Update the preventive measures in relation to changes in organization and production that are relevant to health and safety at work, or in relation to the degree of evolution of techniques of prevention and protection;

W) communicate electronically the national information system for the prevention in the workplace, in the event of a new election or appointment, the names of the representatives of workers' safety during first application of the obligation referred to in this letter concerns the names of the representatives of the workers have already been elected or appointed;

X) Ensure that the workers for whom there is an obligation of health surveillance are not used for the specific job function without the appropriate judgment of suitability.

Y) The employer shall provide to the prevention and protection to the doctors and information about:

a) The nature of risks;

b) The organization of work, planning and implementation of preventive and protective measures;

c) A description of the facilities and production processes;

d) Data on occupational diseases;

e) The measures taken by supervisors.

Obligations of the managers:

A) In reference to the activities, persons responsible, according to their functions and responsibilities, shall:

B) Oversee and ensure compliance by individual employees of their legal obligations and the provisions relating to corporate health and safety at work and use of collective means of protection and personal protective equipment available to them and, if persistence of the breach, inform their direct superior;

C) Ensure that only workers who have received adequate instructions to access areas that expose them to a serious and specific risk;

D) Require compliance with the measures to control risk situations in an emergency and give instructions to workers in case of serious, imminent and unavoidable, leave the job or the danger zone;

E) Inform as soon as possible to workers exposed to the risk of a serious and immediate about the risk and of the steps taken or protection;

F) Refrain, unless duly justified exceptions, from requiring workers to resume their activities in a work situation where there remains a serious and imminent danger;

G) Report promptly to the employer or manager of both the weaknesses and means of work equipment and personal protective equipment, or any other dangerous condition that occurs during labor, such as learns on the basis of the training received;

H) Attend training courses

Obligations of workers:

Each employee must take care of their health and safety and that of other people at work, on which falls the effects of his actions or omissions, according to his training, instructions and methods provided by the employer.

The workers must in particular:

A) Contribute, together with the employer, managers and responsible, fulfilling the obligations provided for the protection of health and safety at work;

B) Observe the provisions and instructions issued by the employer, managers and responsible, for the purposes of collective and individual protection;

C) Proper use of work equipment, substances and preparations, transport and, as well as safety devices;

D) Appropriate use of protective equipment available to them;

E) Immediately report to the employer, manager or person in charge of the deficiencies of the instruments and devices, as well as any hazardous conditions that may come to know, by working directly in the case of urgency, as part of their skills and capabilities and the fact Subject to the requirement to eliminate or reduce serious and imminent danger, informing the workers' representative for safety;

F) Do not remove or alter unauthorized security devices, alarm or control;

G) Not carry out operations on their own initiative or maneuvers that are not to their jurisdiction or which may jeopardize the safety of themselves or other workers

H) Participate in training programs and training organized by the employer;

I) Undergo health checks provided by this Decree or otherwise ordered by the physician.

Workers in companies doing business under the contract or subcontract, must display a special identification card, bearing a photograph, containing particulars of the worker and the indication of the employer. This obligation is also head directly employed persons engaged in its activities in the same workplace, which are required to do so on their own.

The requirements relating to structural and maintenance necessary to ensure, in accordance with this decree, the security of premises and buildings in use assigned to government or public offices, including schools and educational institutions, are the responsibility of ' administration seal, the effect of rules or conventions, to their supply and maintenance. In this case the obligations under this Decree in relation to these interventions, the latter are released by the directors or officers responsible to the relevant departments, asking for their performance to the competent authority or person who has the obligation legal.

Now we can compare these rules/requirements with that in USA.

The main tasks undertaken by the OHS practitioner in the USA include:

A) Develop processes, procedures, criteria, requirements, and methods to attain the best possible management of the hazards and exposures that can cause injury to people,

and damage property, or the environment;

B) Apply good business practices and economic principles for efficient use of resources to add to the importance of the safety processes;

C) Promote other members of the company to contribute by exchanging ideas and other different approaches to make sure that everyone in the corporation possess OHS knowledge and have functional roles in the development and execution of safety procedures;

D) Assess services, outcomes, methods, equipment, workstations, and procedures by using qualitative and quantitative methods to recognize the hazards and measure the related risks;

E) Examine all possibilities, effectiveness, reliability, and expenditure to attain the best results for the company concerned

F) Knowledge required by the OHS professional in USA includes:

a) Constitutional and case law controlling safety, health, and the environment

b) Operational procedures to plan/develop safe work practices

c) Safety, health and environmental sciences

d) Design of hazard control systems (i.e. fall protection, scaffoldings)

e) Design of recordkeeping systems that take collection into account, as well as storage, interpretation, and dissemination

f) Mathematics and statistics

g) Processes and systems for attaining safety through design

Some skills required by the OHS professional in the USA include (but are not limited to):

N) Understanding and relating to systems, policies and rules

O) Holding checks and having control methods for possible hazardous exposures

P) Mathematical and statistical analysis

Q) Examining manufacturing hazards

R) Planning safe work practices for systems, facilities, and equipment

S) Understanding and using safety, health, and environmental science information for the improvement of procedures

T) Interpersonal communication skills

We can find that the laws and obligations in Italy are more detailed than those in USA, thus guaranteeing a high level of security in companies. And later we will do the work in analyzing the security situation of Lucitalia with a following comparison to these standards/laws.

2.2 Analysis of the current security issues

2.2.1 Introductions

I did this Analysis together with 2 other Italian intern students. The approach we use

is usually interview of the person who is in charge of the specific task.

The company is divided into 2 plants:

- Building for workshop which contains painting room, warehouse for workshop, exercise& examination room, computer room (disused), store room (ground floor) and offices (first floor) as owned properties.
- Rented Warehouse building for storage of finished and semi-finished products (ground floor).

Following we will analysis the company in terms of Anti fire, Waste, IT security and response to emergency.

2.2.2 Anti fire equipment

The fire protection plan includes two buildings which are connected by an underground tunnel and separated by a road on the surface, they possess pathways for the exits, assisted by 21 fire extinguisher (2 wheeled, 18 portable internal and 1 external portable), 6 +1 hydrants water connection for the Fire brigade, 3 alarm buttons and 7 emergent lights:

	Fire extinguisher	Hydrants water connection	Emergent lights	Alarm buttons
OFFICE	3	-	1	1
Testing room& computer room	2	-	-	-
Painting room	3	-	-	-
Warehouse near workshop	1(shared with workshop)	-	-	-
Workshop	5(4 internal+1 external)	3	2	1(+general switch)
Warehouse independent	7	2(+1 with high pressure)	4	1

Table 2.2 –Summary sheet for the equipment in each room

Everything can be found in the following picture:

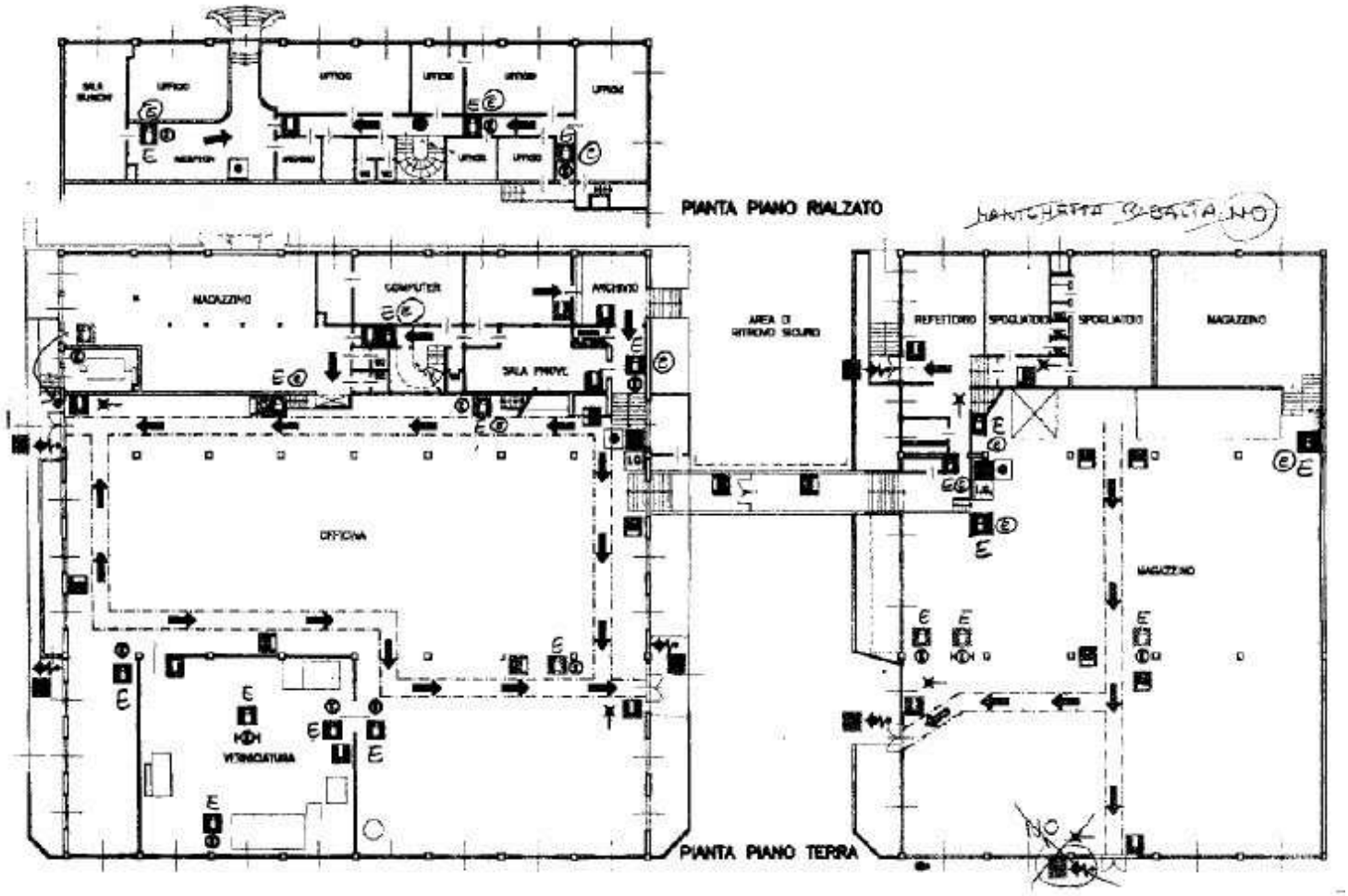


Figure 2.1 –Original Floor plan of the company

Figure 2.2 –Explanation of the floor plan of the company

2.2.3 Responsibilities & documentations

1. General security
   - General: Consultant ESA (Dr. Del Negro)
   - Emergency: Danilo Dassi and Stefano Rivellini
   - First Aid: Grace Pollastri and Moreno Gerosa

2. Antifire:
   - External Responsibility: DOCI
   - Interior Contact: Purchasing Department (Tiziana Radice) and Danilo Dassi/ Stefano Rivellini (Maintenance of extinguishers);
   - Maintenance of Extinguishers: Doci

3. IT security
   - Category office: Franca Locatelli

4. Waste:
The management of wastes contains 3 main actors:
   - Lucitalia Milano Srl;
   - Commune of Cinisello Balsamo;
   - Local Cooperative organization.

The **Commune of Cinisello Balsamo** deals of disposing of cardboard, plastic and glass.

The **Local Cooperative Organization** manages the change of the parts of the toner in company which are used by loan.

Instead, **Lucitalia** manages directly 5 collections:
   - Generic collection (next to the hydrant south-east of the Office Building), usually managed with a dumpster outside the Office Building;
   - Water for washing (painting), or water with detergent for washing the pieces which are disposed around each year;
   - Water for Paint (Painting), disposed slightly more frequently than the water for washing;
   - Sludge from paint (next to the southwest fire hydrant and Painting), manually collected and deposited in special barrels sealed and placed on a slightly sloped and waterproofed to prevent be released to the environment and land;
   - Spent Solvents (small warehouse outside between the fire hydrant in south-west and the sludge collection), used in painting room.

All these activities in **Lucitalia** are controlled and managed by:
   - Administrative Management of waste: Tiziana Radice and Ester Montrasio (in the process of implementing computerized management of waste by SISTRI, scheduled for June 2012)

- Waste Control: Mr. Cisera

5. Documentation:

Purchasing Office(Tiziana Radice, and Ester Montrasio):

-Antifire Documentation (including Emergency Plan, Equipment Register, Maintenance of extinguishers, hydrants and emergency lights, boiler, Certificates Courses attended by Stefano Rivellini Danilo Dassi);

- Documentation Forklift or Fork (Contract of Maintenance, Manuals);
- Documentation Painting (Technical Sheets, Floor Plan, Cabin for Paint, Suppliers Registry);
- Documentation of Environmental Safety (Air Pollution, Industrial Water, Toxic Waste Disposal);
- Documentation of the Corporate Security (Generic, Laws and Regulations for vibration, Chemical, Work Stress, Record of Meetings);
- Documentation of Electrical System (Grounding Test conducted every 2 years);
- Documentation conditioner;
- Copies of Drawings;
- Documentation of waste and products which are no longer in use.

Painting Room:

- Copy the documentation of painting.

Warehouse and Workshop:

- Copy the Documentation for anti fire. (If not present in the Purchasing Office, the contract of Handling and Maintenance of Fire Extinguishers could be found in accounting office.)

2.2.4 Activities

For waste, **Lucitalia** follows the Italian WEEE regulations. And are changing the manage system to SISTRI.

For anti fire, **Lucitalia** does the anti fire exercise every year, simulating an emergency situation (e.g. there's fire in the workshop or office):

The siren alarms, and everybody go out of the office/building rapidly but without any alarmism and fluster. And stay outside until the siren disappears. Then there will be held a meeting for discussing some key points in the exercise.

Also, each year, some responsible person will check and use the anti fire equipment (Stefano Rivellini -- Maintenance of extinguishers)

2.2.5 Real case study (with reference to the small earthquake in 13/04/12)

And these months we could see a lot of news, reports and discussions of earthquakes in all the Italy.

The suddenly increased frequency of earthquake recently scared a lot of Italians,

especially the north of Italian. Milan, Italian economic center, which is not affected by the earthquake so much, also filled with some nervous emotions as the Emilia-Romaia province is not so far from Lombardia. Already several times the people in or around Milan had felt the strong swaying.

And the earthquake happened once when I'm doing the internship in the company, so this could be treated as a challenge to the company's security management.

At 9:00 early morning that day, the earth in north Italy began to shake, somewhere strongly (Emiglia-Romania Province), other districts around it slightly(e.g Milan). And because the plant is at first floor and second floor, which is not so high, some people feel the shake, some people not. And someone who feel it informed others, and the time passed by when others were doubting it truly or no, and minutes later the first turn of shakes finished, which made everybody go back to their positions. During the total course, people just talk about this and most of them remained in the office instead of going out of the building, and obviously no company's official siren has alarmed. Although the earthquake was not so severe that time, but we say that the lack of response to this accident is something bad for the company's security, for the health/safety of the employees who were working in the company.

So in conclusion, there demonstrated the lack of emergency awareness and the quick response to the accident at the very first time. Company has to improve at these points as long as they make efforts to guaranteeing the security infrastructures.

2.3 Identification of the problems

Physical:

- Disposal of Obsolete Machines + Machine out of the norm (Workshop building);
- Bathroom in disuse and out of the norm to be fixed (Workshop building);
- Fix the stopped mechanic of the elevator (Workshop building).
- Security files/daily files are not destroyed before throwing away. Thus there exists the possibility of losing sectary information to competitors.

Responsibilities:

- Original responsible person leave; new responsible persons are not so experienced in this area.
- The dispatch of the responsibility of security are not so clear in terms of the organization (somebody are from Category Office, somebody from Purchasing Office, Some from the Workshop), actually no 1 of them only work for security. Although this kind of work are not so heavy, but if we could concentrate these task to 1 of them who we could trust, then will save a lot of problems.
- Same with the previous one, some tasks (mainly in documentation) could be done by this person but also could be done by another one. This kind of randomness is not good for the organization.
- To manage the waste more efficiently, the introduction of the new computer system

SISTRI is very important. Thus not only save a lot of human resource, also can avoid a lot of errors and finish this kind of repetitive tasks better.

Emergency awareness:

- Lack of emergency awareness and the quick response to the accident at the very first time.

2.4 Possible solutions and optimal actions

Physical:

- Obsolete Machines need to be discarded, 1 stopped elevator need to be fixed, bathroom need to be retreated.
- Introduction of the paper crushing machine. Thus the unneeded documents could be crushed before throwing away.

Responsibility:

- Communicate to the DOCI with new internal reference for antifire (Purchasing Office - Tiziana Radici) who will take the place of Mr.Migliorati;
- Communicate to the consulting ESA the new employer /internal responsible person for the company security in succession to Mr. Mammani.
- Make sure there's no problem during the communication between new responsible person with the security consultant/government.
- Concentrate the responsibilities to keep them clear and to make the security organization reasonable/efficien.
- Pass to the Management of waste using Computer Science (June 2012 - new manager: SISTRI;

Anti earthquake:

- When someone notice a tiny shake/indication of the earthquake, he/she needs to quickly spread this sign to all the employees in the company and inform the manage/security responsible person this accident who should suddenly make the official siren/broadcasting to drive people out of the building.

Emergency awareness:

- The response from the company and employees are not so rapidly.
- Jobs during the emergency are not so effectively dispatched
- Need to improve the awareness of self-protection during the employees.

3

WORK ON WAREHOUSE MANAGEMENT

3.1 Theory Part For Warehouse Management

3.1.1 The Role Of Warehouse in the supply chain

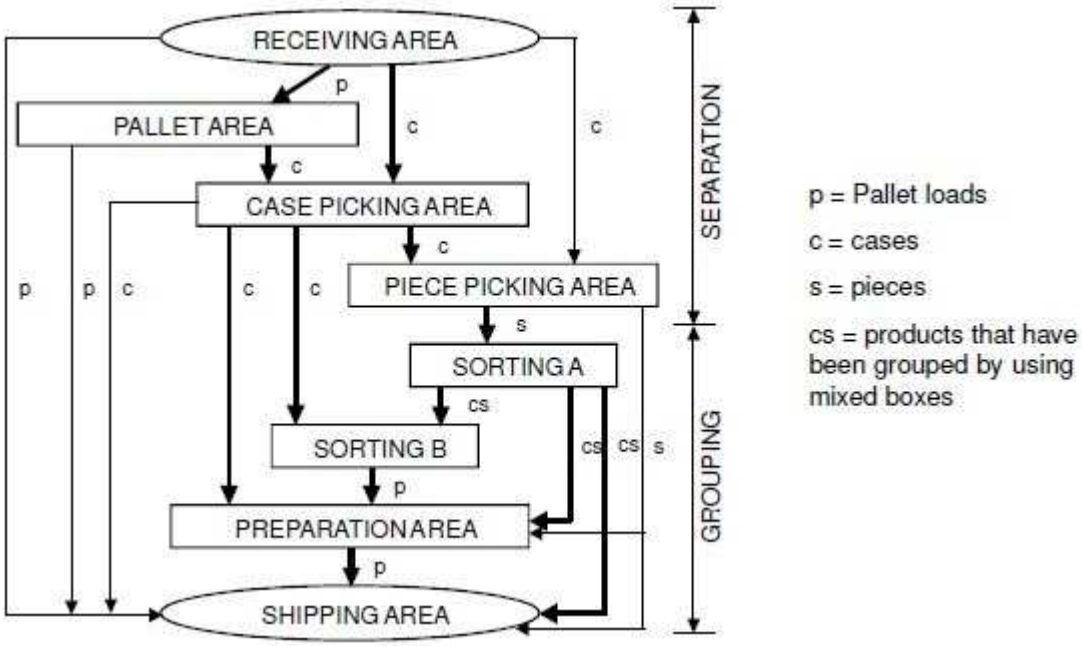


Figure 3.1 – Chart of main logistics flows

3.1.2 Inbound & Outbound Flow

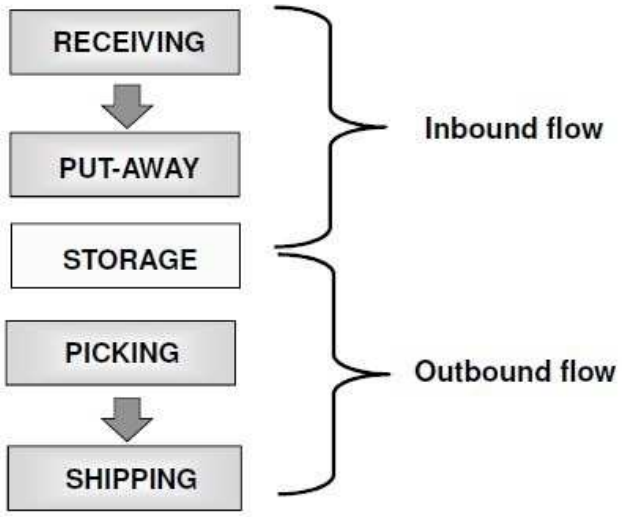


Figure3.2 - Logistic flow charts

Inbound Flow

Receiving:
The carrier is scheduled to deliver the goods at a specific time in order to improve the warehouse labor productivity
The goods are unloaded from the vehicle and moved to the receiving dock
Once there they are inspected for damage and any damage is noted on the carrier receipt
The received goods are compared to the purchase order to check that they are those ordered.

Main Jobs in Receiving phase:
Schedule carrier
Unload vehicle
Inspect for damage
Compare to P/O

Put-Away:
The put-away operation moves the goods from the docks to the storage area
The product is identified (e.g. by scanning the bar code)
The location to store the product is identified as well
The product is moved to the location
The warehouse inventory records are updated to reflect receipt of the item and its location

Main Jobs in Put-away phase:

Identify product
Identify storage location
Move products
Update records

Outbound Flow

Picking:
The order information is provided to the personnel on a picking list
The items on the picking list are arranged so as to minimize the distance the picker has to walk through the aisles
Once they arrive to the shipping preparation area, the items are placed in a shipping package (or a pallet that could be wrapped)
The shipping label (i.e. a label that indicates the customer address) is attached to the shipping package

Main Jobs in Picking phase:
Manage order info
Pick goods
Move goods
Label package

Shipping:
The carrier is scheduled to pick up the goods at a specific time
The goods are moved from the staging area to loading dock
The goods are loaded to the carrier vehicle
The carrier signs a bill of lading
The warehouse management systems is updated to reflect removal of the products from the warehouse

Main Jobs in Shipping phase:
Schedule carrier
Load vehicle
Bill of lading
Record update

3.1.3 Warehouse

The Function Of Warehouse
a). It needs materials planning and materials management
b). It contains safety and cycle stocks
c). It accomplishes all the activities/tasks typical of a depot

Storage:

a). Keep the inventories
b). Guarantee a determined safety stock coverage
c). Decouple asynchronous processes
d). Keep the goods safe

The main roles of the inventories - Flow Management/Materials Handling:
a). Transform the flows
b). From Full pallet loads to customer orders
c). From unpacked products to packed products
d). From untailored products to tailored products

Basic Warehouse Decisions:

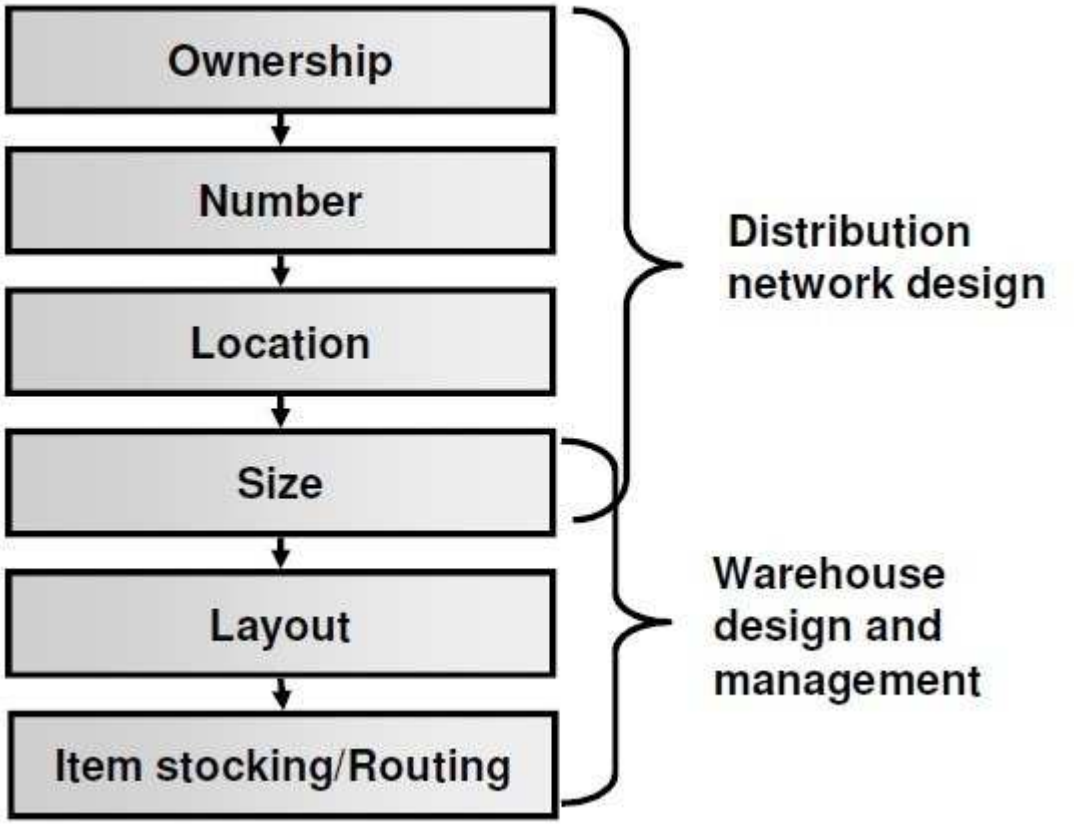


Figure 3.3 - Basic warehouse decisions

Layout

Selective pallet rack systems:
a). Storage systems typically made by couples of racks separated by working aisles
b). Racks are made by joining uprights (vertical elements) and beams (horizontal elements)
c). Selectivity is high. It is equal to 1 in case of single deep storage racks
d). Each bay can hold more than one UL (depending on the characteristics of the UL), i.e. a bay can have more than one pallet location

e). They can be used simultaneously to stock full pallet loads and as picking stock
f). Their cost is low, around 20-30 euro per UL location

Figure 3.4 - Selective pallet rack system

Access Index - based Storage Policy:

The items with a high ratio between picking frequency/popularity and dedicated space are located closer to the I/O point

$$AI = \frac{\text{Picking frequency}}{\text{Dedicated space}}$$

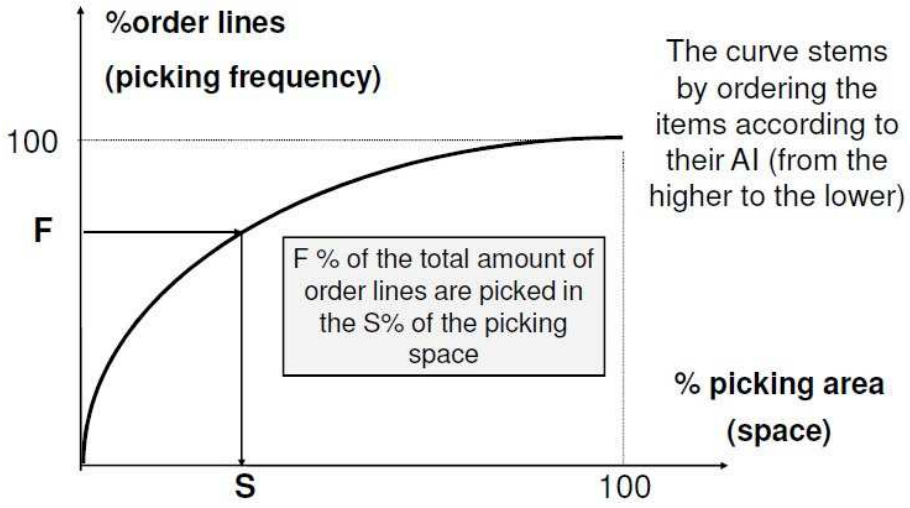


Figure 3.5 – AI Based Storage policy

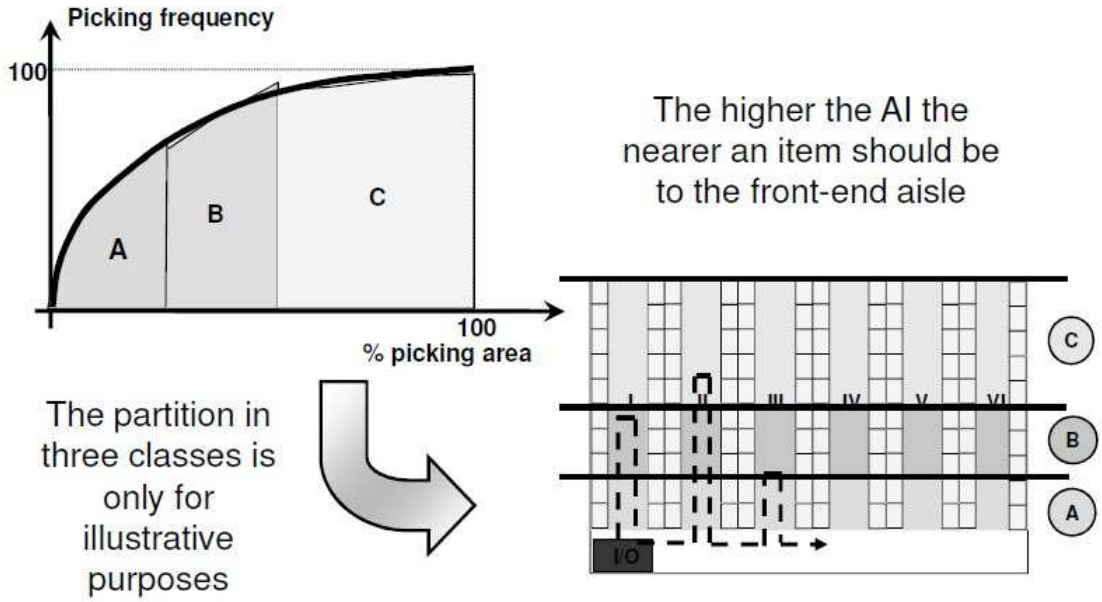


Figure 3.6 – The application of AI Based Storage Policy.

This policy is quite suitable for the warehouse with different things which are of the different access index (picking frequency). And it's suitable for the area with only one I/O, thus the goods with higher picking frequency are stored more nearly to the I/O in order to minimize the total average picking time.

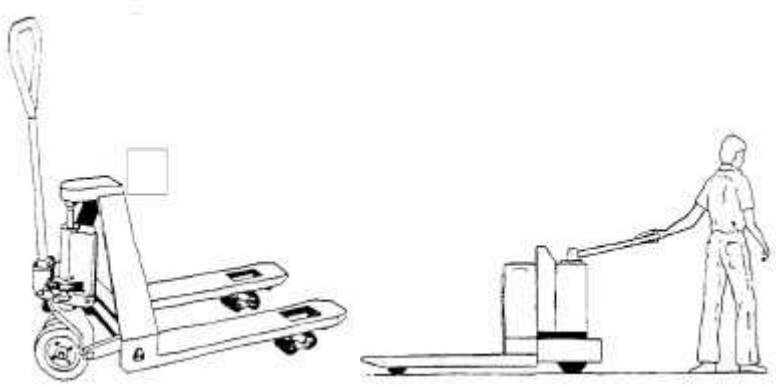


Figure 3.7 - 2 different type of Pallet Jack

Figure 3.8 - Counterbalance forklift truck

3.2 Description Of My Task & The Background Of It

As we can see from the following picture, logistic is a systematic view of all the inbound and outbound activities. And when we consider one process or one fact in it, we cannot ignore the affects from other processes. My job can be described as warehouse management, but this task is tightly related with other changes in the supply chain. And also the result of this task will affect a lot on the following logistic activities. So following I will demonstrate the co efficiency between my work and the total supply chain of the company.

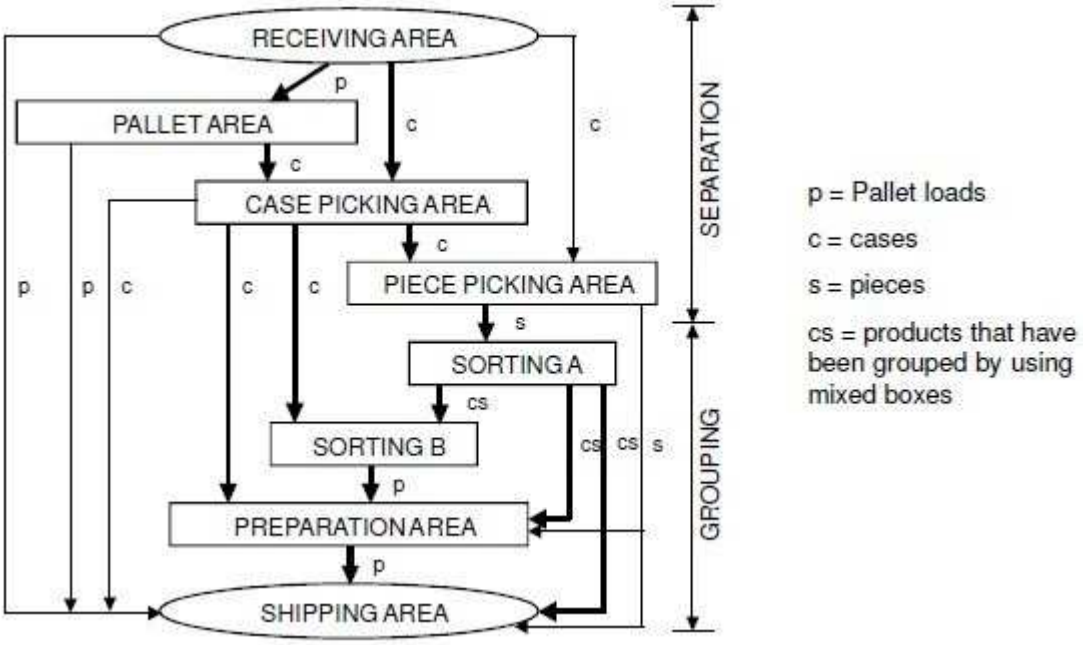


Figure 3.9 - Chart of main logistics flows

Recently there's a big change in the formation of the company, they plan to outsource a part of production to some foreign suppliers (here I can't provide the precise name of which company/which country), so the total supply chain and logistic picture is changed.

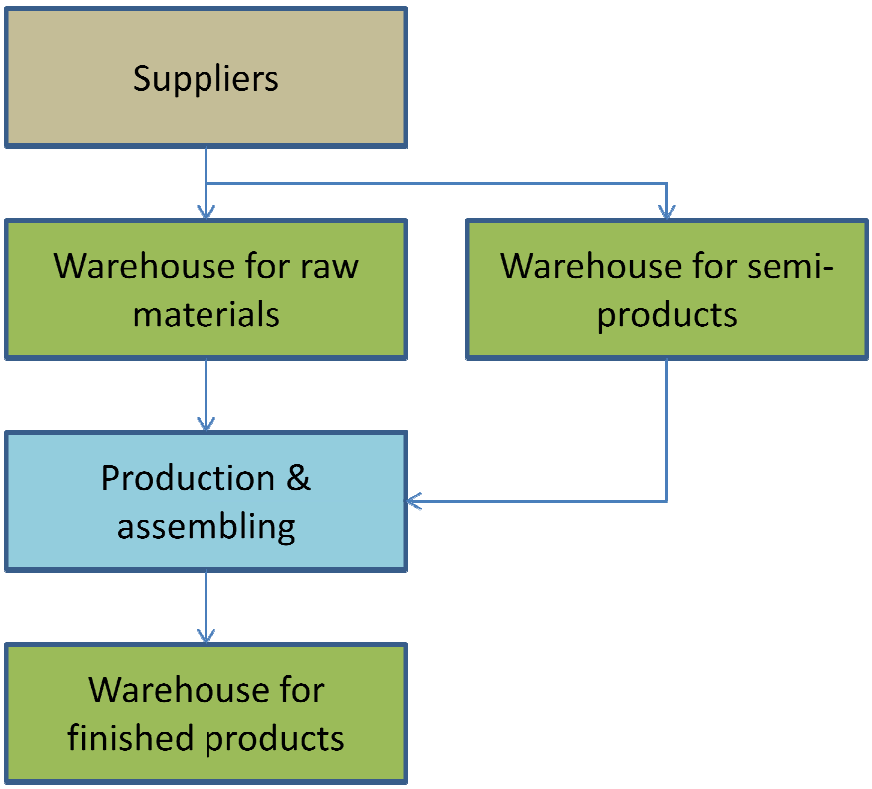


Figure 3.10 - Original logistics flow of all the products in the company.

And now Lucitalia outsource a part of production of one specified family of lamps to partner, and then receive the semi-products and only do the assembling. The process flow is as following:

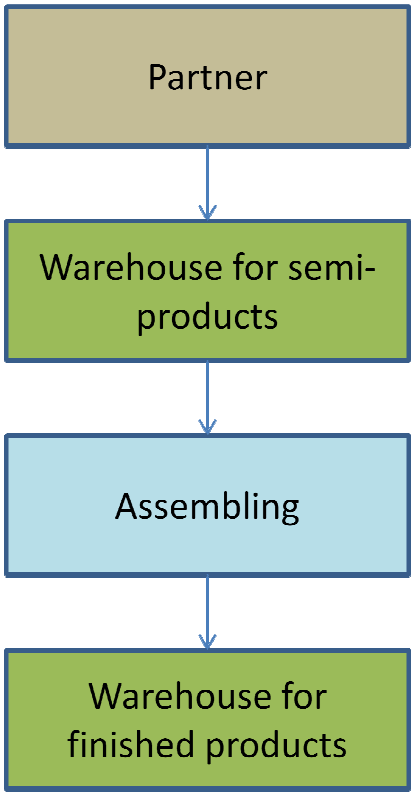


Figure 3.11 - The logistics flows of one product family "Lucitalia Professional"

And for the product "Candido", which is designed by "Porsche design", the company outsource the entire production to the partner(for this special product, they send a lot of workshop information to the partner in order to guarantee a high quality level). So in the future they only receive the finished products from partner and then do the storage, packaging and shipping.

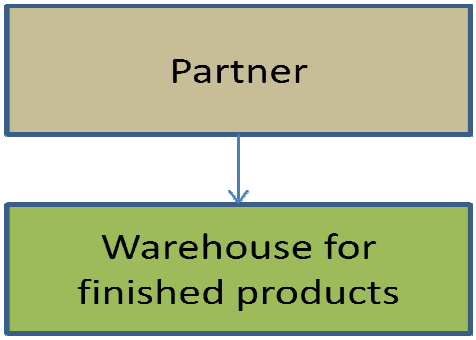


Figure 3.12 – Logistics flow of the product"Candido"

So we can see from the changes in the process diagrams, Lucitalia save a lot of space for the Warehouse for raw materials, and save a bit at Warehouse for semi-products, and increase a bit the required volume in Warehouse for finished products. However, for the finished products the turnover ratio is high, the pressure for

stock is lower. So based on these analyses, the company Lucitalia decides to reduce the total plant area to save a lot of cost annually. That is, terminate the contract of one building, which is now used as warehouse for finished products. And before doing this thing, reorganize the area and optimize the layout of the remained space with a lot of calculation are necessary. My job is to collect the data of the remained space, shelves and the information of the pallet loads (including the numbers, sizes, measures) and to provide some possible solutions.

3.3 Data Collecting & Analysis Of Current Situation

3.3.1 Layout of the building (office, workshop and warehouse)

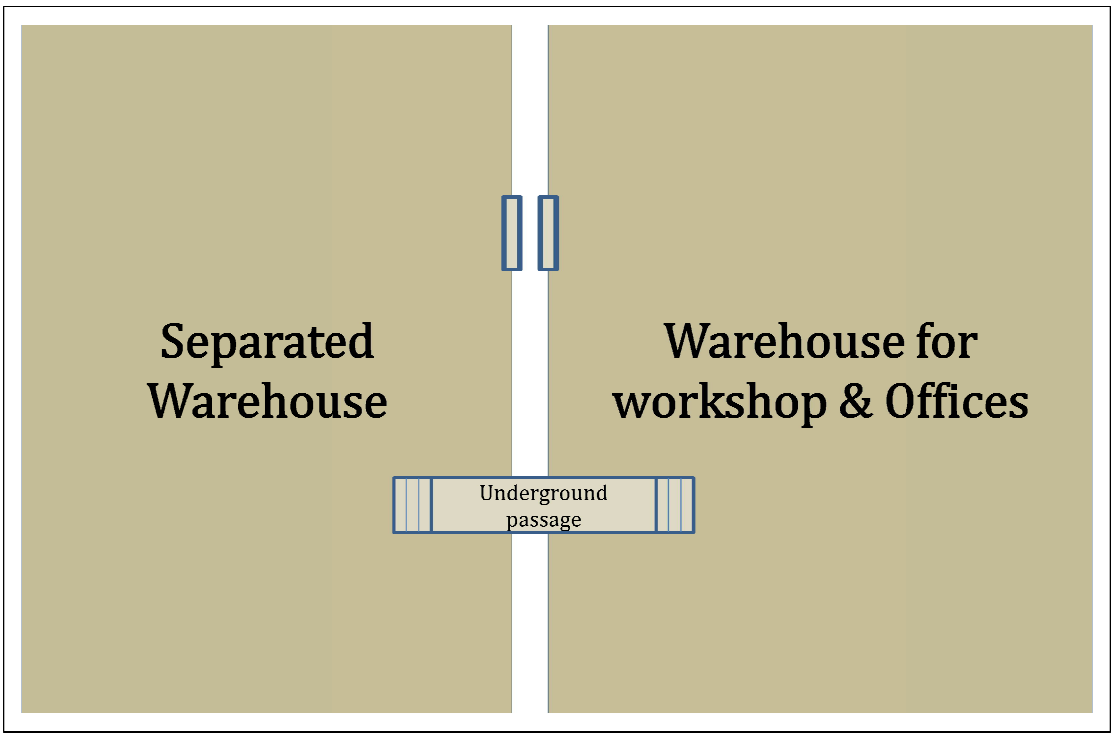


Figure 3.13 - Layout of the building

The head office of Lucitalia in Sesto San.giovanni Milan contains two buildings:

One is Separated Warehouse (which is rented) mainly used for storing finished products, we call it **Building 1**;

Another one(which is Lucitalia's property) contains workshop, painting room, office and warehouse of raw materials, semi-finished products. In this article we say **Building 2** when referring it.

As I described above, the company Lucitalia wants to disuse the Separate Warehouse thus to save a lot of cost, nearly a year. In the following is the inside layout of the Building 2.

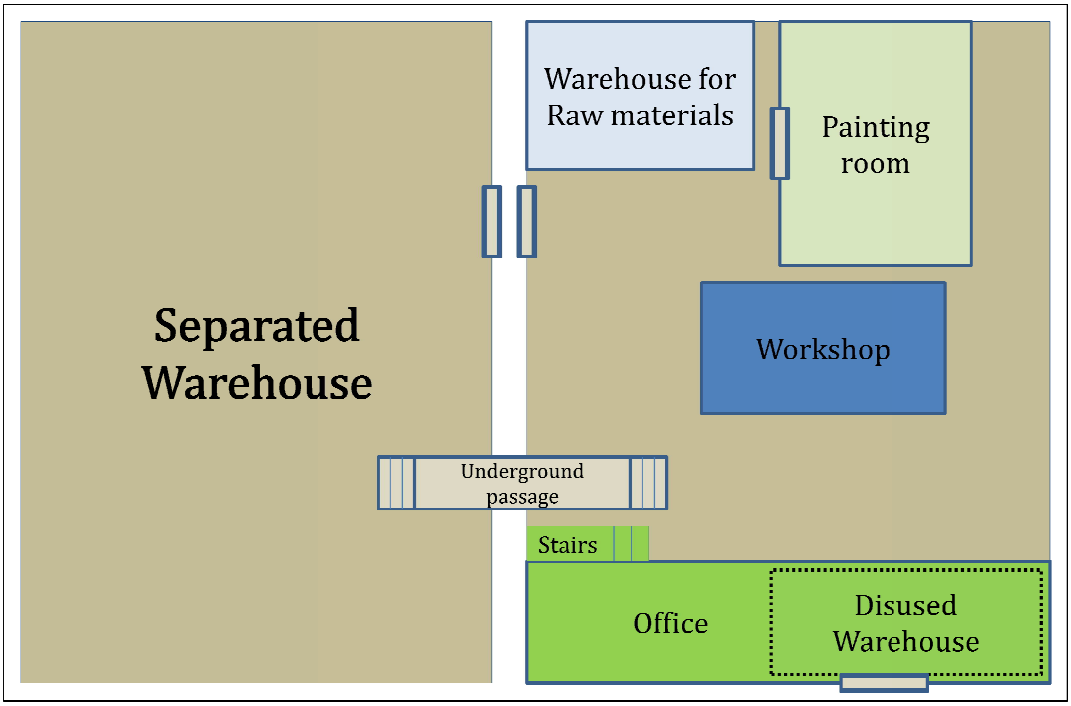


Figure 3.14 - Inside layout of the building 2

We can see there're different function parts in the building 2. The office part is in the first floor, and under it is a small disused warehouse which needs a small elevator to let trucks enter into. And the workshop is not so big because there aren't too much work in the company(mainly the assembling work & painting work), the painting room is separated with an anti-dust door. And beside the entering door there's a small warehouse for storing small raw materials. The remained place were occupied with a lot of shelves which are not organized in good order, these shelves are mainly used for storing semi-finished products.

Figure 3.15 - The underground passage between **Building 1 & Building 2**.

Figure 3.16–The entry of the painting room and painted products.

Figure 3.17– Infrastructures and products inside the painting room

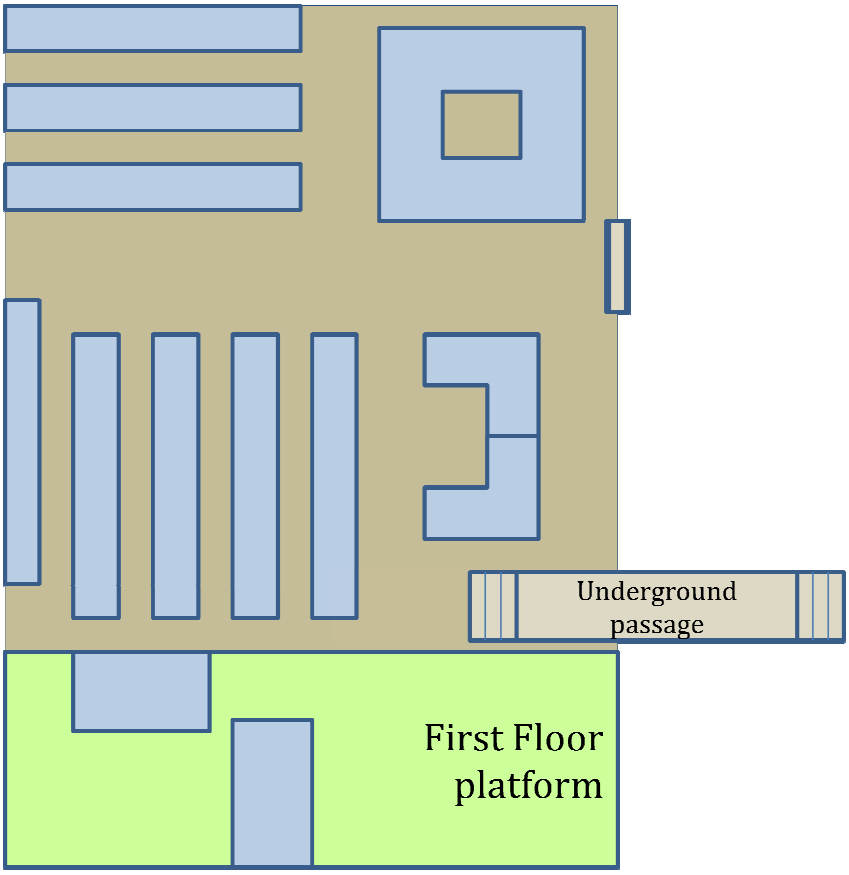


Figure 3.18– The layout of the shelves in Building 1

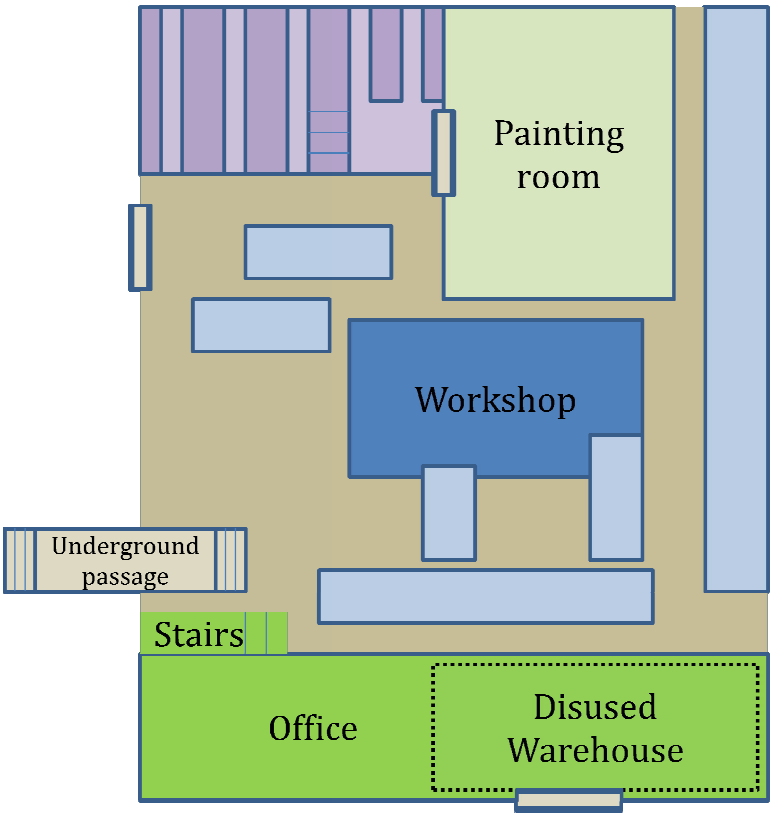


Figure 3.19– The layout of the shelves in Building 2

As showed in the picture 3.13, the areas with light blue are shelves in the building 1, they are not put in a good organization, and some longer, some shorter, some higher, some lower, without a standard level.

As showed in the picture 3.14, the areas with light blue are also shelves in the building 2, they are not put in a good organization, and some longer, some shorter, some higher, some lower, without a standard level. The areas with purple are the shelves with 2 floors.

Now we make an order for all the shelves in **building 1** and **building 2**. They are showed in the following picture:

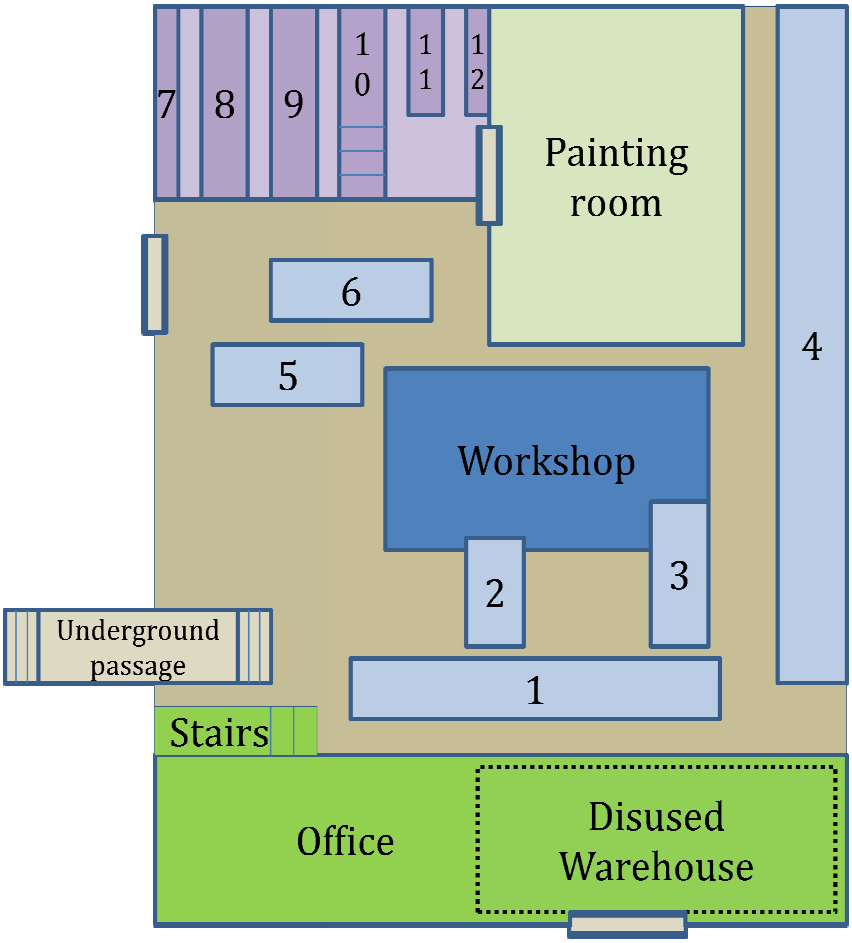


Figure 3.20 - The serial number of the shelves in Building 2

Figure 3.21 – Shelves #7 - #9 in **Building 2**

Figure 3.22 – Shelves #10 - #12 in **Building 2**

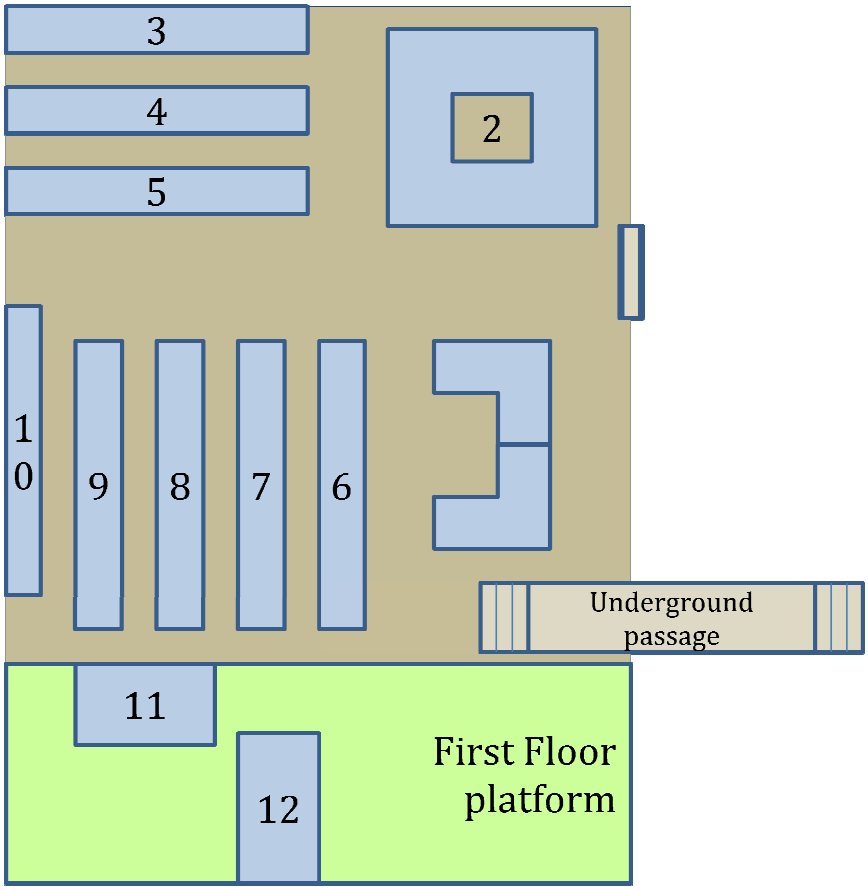


Figure 3.23 – The serial number of the shelves in Building 1

These serial numbers will be used in the next step of the calculation of the stock capacity.

3.3.2 Report on the storage related processes

Quality and Quantity Control

Arrival of materials, which are semi-finished or finished products, checking the correspondence between the quantity of the order transcribed on the packages and the one described on bubble. If the numbers match, proceed to the confirmation of the bubble itself, making keep a copy of the Factory / Warehouse and placing the original in the office Purchases (Tiziana Root and / or Esther Montrasio) to allow loading of data management system.

The materials are then placed in the space reserved for arrivals and marked with the tag "unchecked".

At this point, a clerk in charge of the inlet flow proceeds to:

Quality control (Head: Angel Malegori)

- It uses the technique of the control sample with a percentage of extraction of about 5%;
- If you have non-compliance, the quality manager evaluates if you go beyond the rate

of 5% and if the materials can be recovered with a job work shop instead be made to the supplier;
- In case of return, the quality manager prepares and sends to supplier a technical report that is there to report the disservice, both to agree with the other solution best practice to the problem;
- The technical report will then take charge and always sent via FAX Purchases by the supplier, to allow for optimal management and administration of the supply relationship as a whole.

Quantity check (Responsible: Rocco Fappani materials and semifinished Workshop, Stephen Rivellini for finished goods in stock)
- If, when, or quality control problems were found
such as to make the return, the controller shall verify quantities match the quantity actually arrived with the indicated on the bill;
- If the check is successful, the manager of the amount removed materials from the card and place it all in the spaces provided;
- In the case where instead there was no correspondence with the quantity, the Purchasing Department sends a report via FAX to the provider in which signals the disruption and the need to eliminate inconsistency.

Returns and Repairs
The process begins with the arrival of the product to the warehouse.
On the bubble that accompanies the return, the customer writes what are the problems encountered and any request for an estimate, though often the information provided or missing entirely or are too general or even without a request for quote when it is necessary.
The sheet is then inspected in the first instance by the person in Warehouse, Stephen Rivellini, completing part of module repair reserved for him, in which, in addition to data of the customer, are noted at the origin of the causes dell'anomalie made.
These documents are then brought to the Sales Office, where the bubbles are validated and the return is authorized.
Secondly operative responsible for repairs, Angelo Malegori that physically verify the status of the returned product:
- If the customer has not explicitly asked for an estimate and repair it soon becomes important (as the need for replacement of the product) or in cases of prior request, the controller produces an estimate of repair that the sales office will inform the customer, taking agreements with the same for the costs of repair;
- If the repairs are quick and trivial (such as replacement of an electric wire), the controller adjusts immediately the product and fill in the form of the dedicated repair Officina, wherein the list of defects repaired and time spent will serve to office to make the sales price of the service to be billed to customer;
- In the generic case where repairs are not trivial and fast, the work is postponed to Monday, the day dedicated to repair themselves;

- Finally, since in most of the work materials are used or inventories, the form of repair, before being stored and stored in Sales Office for a maximum of 2 years, passes mandatory in Purchasing (Tiziana Root) for update the inventory.

3.3.3 Report of shelves, pallet loads and Storage Capacity

After knowing the process of the inbound logistic outbound logistic, now we can go deeper on the calculation of the storage capacity and the number of pallet loads at this moment.

We already said that the warehouse in Lucitalia is with single deep selective racks, the reason are that the height of the warehouse varies from 4 meters to 7 meters. Thus, the high cost of S/R machine system is not reasonable for them. And also adoption of straddle reach truck system will waste too much capability of trucks on the height.

	H_{MAX} *m*	Aisle $width_{min}$ *m*	AUR *UL/m²*	Storage Cost *€ /UL*
Counterbalance forklift truck	6	3.0	1 - 2	20-30
Straddle reach truck	10	2.5 - 2.8	1 - 3	20-30
Turret truck	14	1.5 - 1.7	3 - 5	30-40
S/R machine	35	1.0 - 1.4	6 - 12	>50

Figure 3.24 – Reference values (Assumption: selective pallet racks)

Usually this kind of warehouse (single selective rack system) has two configurations of the modules:

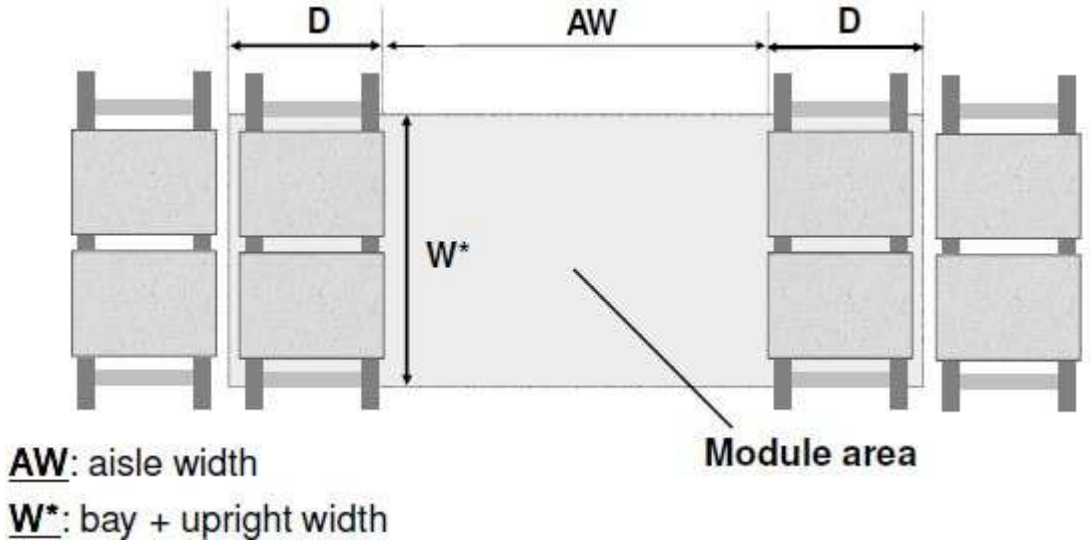


Figure 3.25 – one storage module

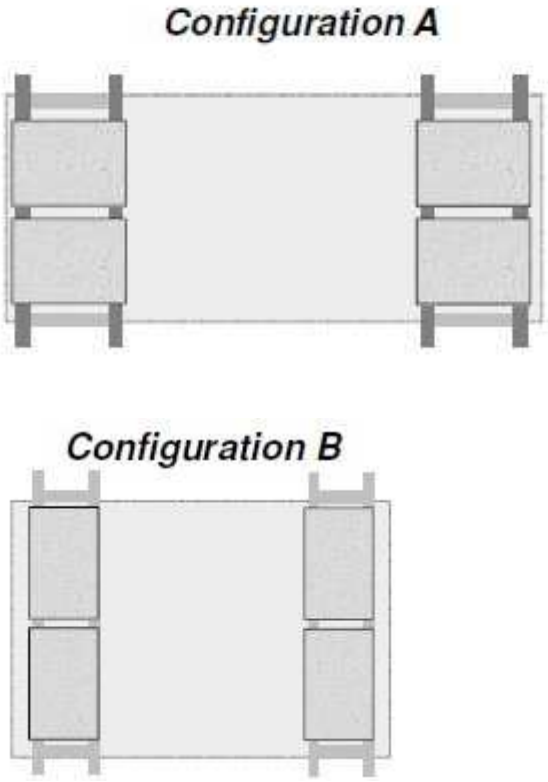


Figure 3.26 – Two configuration of one storage module

Configuration A has Better area utilization rate while configuration B has Better ergonomicity to pick the cases (while picking), and in Lucitalia both type exist. The chose between these two types depends on the products (the size, case or box or pallet loads).

And we can also notice that the shelves in Lucitalia not always appear in pair, which means sometimes we don't have this kind of module, with only one row of shelves:

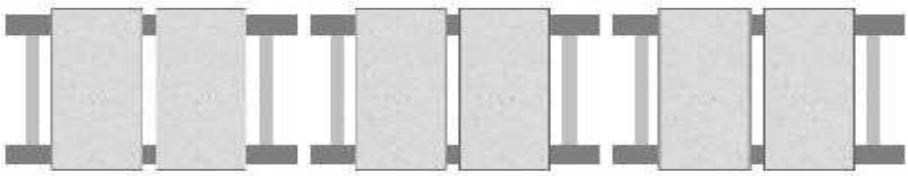


Figure 3.27 – shelves in a single row

Thus, we could not calculate the module area, and the area utilization rate of the modules. For this kind of one-row shelves, we could only calculate the areas which are occupied by the shelves. And calculate the area utilization rate of the areas of shelves.

Statistical details of the shelves in Building 1

Building 1	Max. Pallet loads	Stock level	Sizes(meter)		
Number of shelf			length	height	width
1	54	2,3	14.65	2.57	1.90
2	56	2	23.44	2.57	1.90
3	72	4	12.30	2.93	1.92
4	104	4	13.28	2.93	1.92
5	104	4	13.28	2.93	1.92
6	96	4	12.30	2.93	1.92
7	52	3,4	11.72	2.57	1.90
8	47	2,3	11.72	2.57	1.90
9	64	4	11.72	2.57	1.90
10	29	2,3	10.99	2.57	1.00
11	16	2	4.35	2.23	2.10
12	24	3	4.86	2.57	1.90
Max.Pl	718				

Table 3.1 – Datas of the shelves

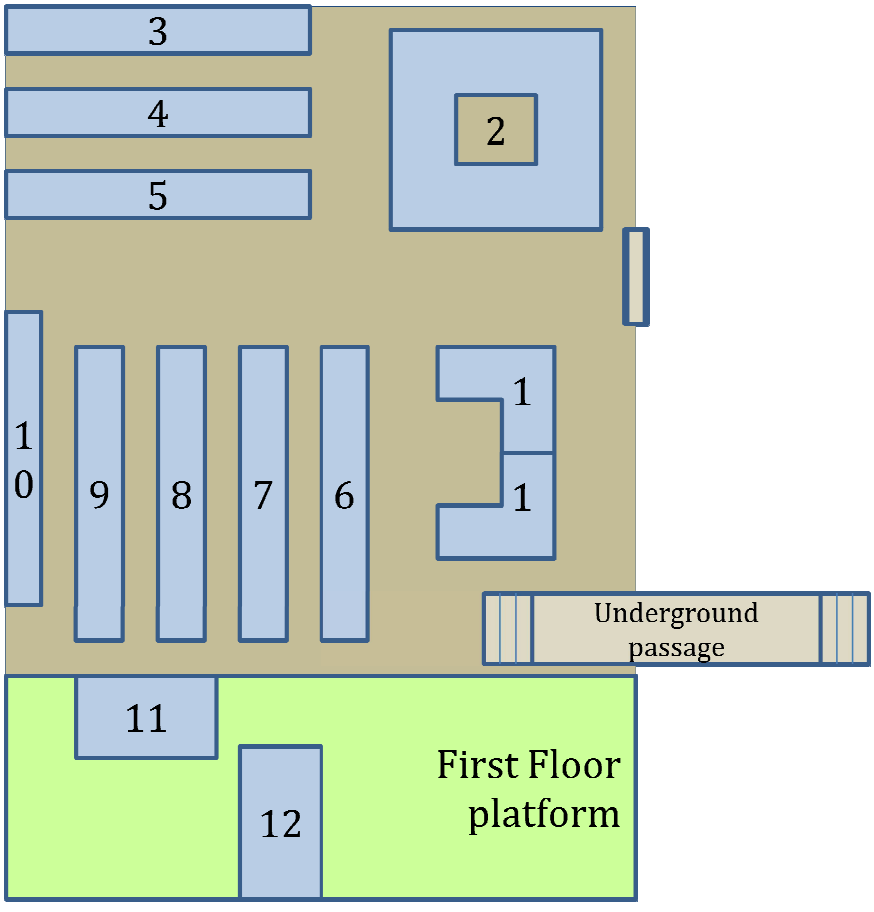


Figure 3.28 – The serial number of the shelves in Building 1

Statistical details of the shelves in Building 2

Building 2 Number of shelf	Max. Pallet loads	Stock level	Sizes(meter)		
			length	Height	width
1	78	3,4,5	20.60	3.00	1.00
2	18	4,5	4.38	3.00	1.00
3	29	3,5	7.49	3.00	1.00
4	86	3,4,5	21.14	3.00	1.00
5	18	3	6.55	3.00	1.00
6	32	4,5	8.03	3.00	1.00
7	28	3,4	8.70	3.00	1.00
8	43	5	10.80	3.90	1.00
9	59	7	10.80	3.90	1.00
10	31	7	6.00	3.90	1.00
11	31	7	6.00	3.90	1.00
12	35	7	6.00	3.90	1.00
Max.Pl	488				

Table 3.2 – Datas of the shelves

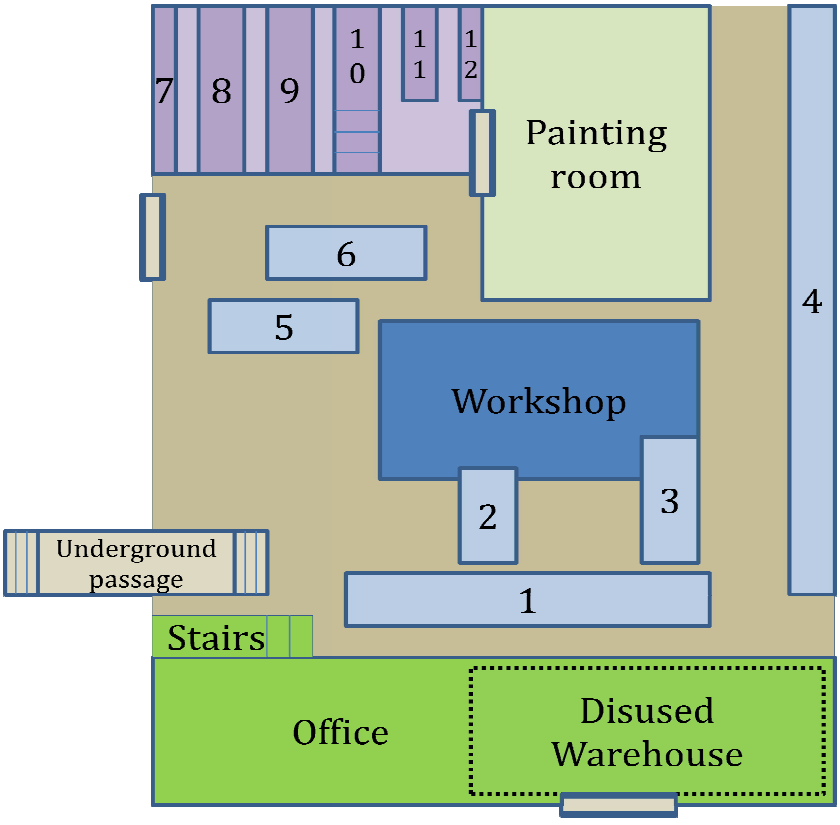


Figure 3.29 – The serial number of the shelves in Building 2

Building 1 Number of shelf	Space occupied by shelves(square meter)	Storage capacity/Space rate(pl/m2)	module area(square meter)	Area utilization rate (pl/m2)
1	39.44	1.37	68.86	0.78
2	59.16	0.95	110.17	0.51
3	23.62	3.05	58.06	1.24
4	25.50	4.08	62.68	1.66
5	25.50	4.08	62.68	1.66
6	23.62	4.07	58.06	1.65
7	22.27	2.34	55.08	0.94
8	22.27	2.11	55.08	0.85
9	22.27	2.87	55.08	1.16
10	10.99	2.64	41.76	0.69
11	9.14	1.75	21.32	0.75
12	9.23	2.60	22.84	1.05

Table 3.3 – Data of the shelves in **Building 1**

Building 2 Number of shelf	Space occupied by shelves(square meter)	Storage capacity/Space rate(pl/m2)	Module area(square meter)	Area utilization rate (pl/m2)
1	20.60	3.79	78.28	1.00
2	4.38	4.11	16.64	1.08
3	7.49	3.87	28.46	1.02
4	21.14	4.07	80.33	1.07
5	6.55	2.75	24.89	0.72
6	8.03	3.99	30.51	1.05
7	8.70	3.22	33.06	0.85
8	10.80	3.98	41.04	1.05
9	10.80	5.46	41.04	1.44
10	6.00	5.17	22.80	1.36
11	6.00	5.17	22.80	1.36
12	6.00	5.83	22.80	1.54

Table 3.4 – Data of the shelves in **Building 2**

The numbers in red means this shelf isn't put in an good order which can't form a standard module area. And these shelves have the real Area Utilization Rate much lower than the red number which can't be calculated.

Analysis of Building 1

We can see from the table 3.1, that most of the shelves in Building 1 are of different types in terms of Maximum Pallet loads, stock level and sizes. Some shelf even has two stock levels. For example, the shelf #1 has left part with 2 levels and right part with 3 levels. And this is because there're too many products of different types in Lucitalia. Thus, there are a lot of materials/ semi-finished products. And some type of materials can't even occupy one pallet load. So they customized their shelves, make some shelves of high stock levels in order to put more parts/boxes into it, some stock level lower in order to store large boxes/ cartons. In fact there're only 2 original models of the shelves: 1 with the height 2.57; 1 with the height 2.93. And later when we change the layout of the warehouse we can also modify the stock levels of the shelves.

And we can find that the shelf #10 is with the width of 1 meter, while the others with around 2 meters. This is because that the shelf #10 can only store 1 pallet load in every position in front view, while the others can store 2 pallet loads in every position in front view, 1 in front of you and another behind it is blanked by the front one. So obviously, the shelf #10 is beside the wall.

From the Figure 3.26, we can find that the shelves #3 - #10 are well organized because they are put in a very widely used order (single deep rack system). And the shelf #1, # 2, #11, #12 are not belong to them, they are kind of alone and this means they are not organized in a good way thus, the goods in these shelves occupies too much space thus are with higher storage costs. Especially the shelf #2, all the spaces within or near the shelf is filled in with obsolescence goods, tools, products.

Analysis of Building 2:

The shelves in Building 2 are even worse than those in Building 1, here almost all of them are not organizes well. So later if we want to move all the goods in building 2 to building 1, we must reorganize the layout of the Building 1 to optimize the Area utilization rate.

Another thing we can find is that the total storage capacity in building 2 is bigger than that in building 1. This is because not only the layout is more reasonable in building 2 than in building 1 but also there is a painting room and a workshop in building 1 which occupy too much space. Now about 60% to 70% of the shelves in the two buildings are occupied.

So first, we need to adopt some marketing strategies to make our finished products ordered more often, thus reduce the stock in the warehouse for finished products (building 2).

And see the Figure 3.27, the purple area is occupied by the shelves with two floors which are connected by stairs. And in the Table 3.4, we can see that they are with high AUR, this is because the shelves are divided into more floors in order to store tiny pieces/tools so it's not really so much high when considering to store a standard size of a pallet load. So in fact, the shelves with highest AUR are the shelves #3 - #9 in building 1, the reason is the reasonable layout obviously.

3.4 Solutions and suggestions with high feasibility

1. Adopt some marketing strategies to make our finished products ordered more often, to speed up our selling, thus reducing the stock in the warehouse for finished products.

2. Using SAP solutions for warehouse management

With SAP system, employees can direct inbound goods through cross-docking processes. These processes can help in:

a). Minimize duplicate goods movements within warehouses

b). Optimize flow of goods inbound to outbound and shorten routes within warehouses (gain on time and cut down expenses)

c). Help plan and execute physical inventory or cycle counts

d). SAP software for inventory management also supports, in real time, the following processes: Workload planning, Wave picking and order consolidation, Radio frequency and bar-code scanning, Handling-unit management and Cross-docking

And Lucitalia can benefit a lot (reduce the Safety Stock, optimize the storage policies, increase the Throughput rate of goods in stock) within these points.

3. Move some shelves from Building 1 to Building 2 and reorganize the layout in the Building 1.

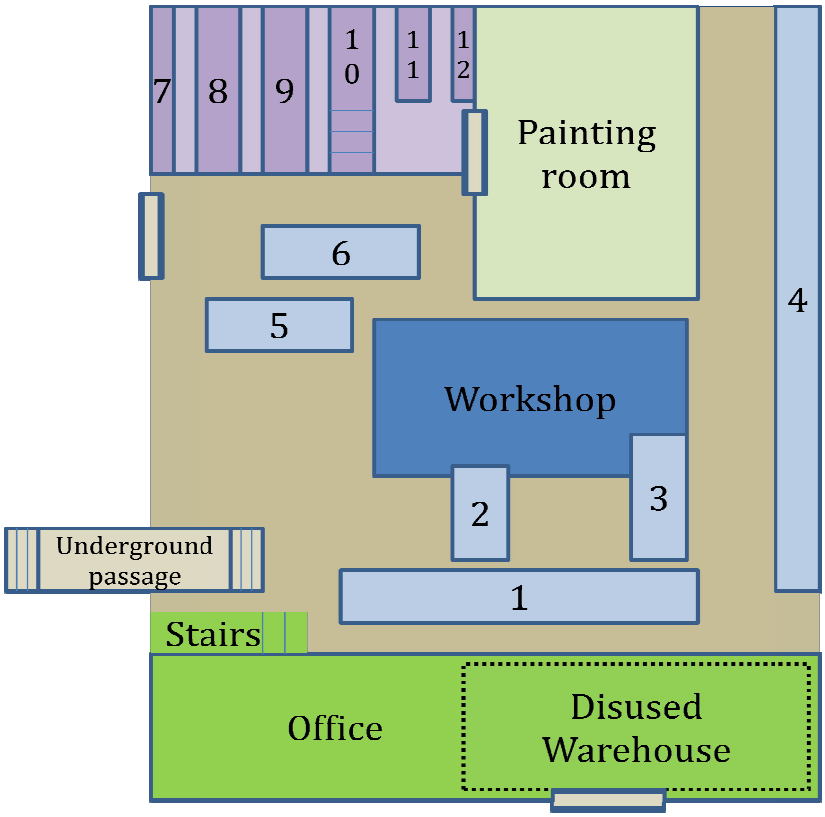


Figure 3.30 – The layout of Building 2 before

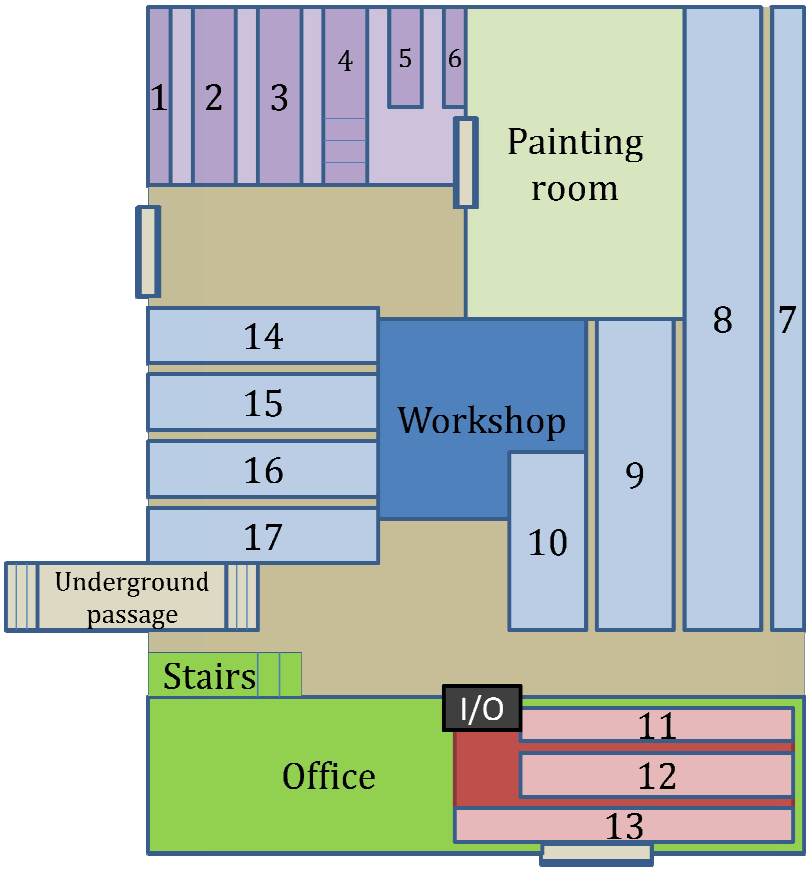


Figure 3.31 – Suggested change in the Building 2.

4. Use the AI Based Storage Policy for the red part.

The red part (Disused warehouse) is a close area which has only one I/O, so it's better to use AI Based Storage Policy and combined with shelves under 2.3 meters to store tiny parts/tools/carton boxes. And divide them into different places due to the frequency of usage.

5. Using the Cross-docking logistics

As for some products, Lucitalia only receive the semi-produced pieces or totally finished products of them. So the company could use this logistics to transfer this kind of products from out supplier to our customers instead of storing them, only use the warehouse as a coordination hub between inbound and outbound logistics instead of a storing place. Thus reducing a lot of products in the warehouse and releasing much more space.

3.5 The changes in progress

Now some suggestions are adopted by the company and they are doing the changes in the layout of Building 2.

Before the changes:

Figure 3.32 – Picture of the workshop in 1st January

During the changes (1st May):

Figure 3.33 – Shelf #10 In Figure 3.31

Figure 3.34 – Workshop in Figure 3.31

Figure 3.34 – Shelf #9 & shelf #8 in Figure 3.31

Figure 3.35 – Shelf #8 & shelf #7 in Figure 3.31

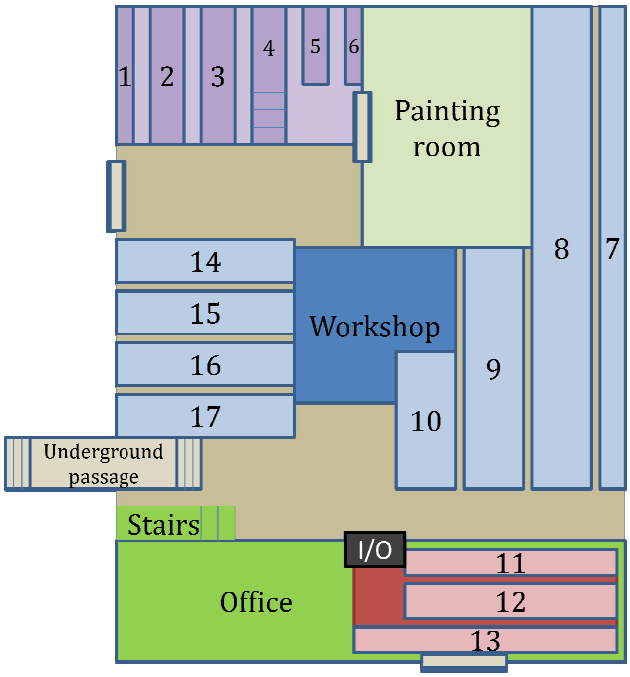


Figure 3.31 – Suggested layout of the warehouse

And a lot of other changes are still need to be done……

4

CONCLUSION

Main Achievements

Helped the company to map the processes of anti-fire and waste issue, have a look at the Italian laws and obligations to understand which kind of work is required, analyze problems comparing the current situation with the laws and obligations, provide improvement suggestions.

Assist their manager to collect data of the shelves, measure the size and count the storage capacity of the shelves, analyze the problems, providing possible solutions, expected results.

Other Achievements

In conclusion, this project is very useful for me, not only in the content itself but also in the way in which I was doing it.

As I only had rarely working experience, I highly appreciated this opportunity from the beginning. At first I met with a lot of different problems when I tried to adapt myself to the Italian working environment, so the first thing I want to mention is that this internship improve my ability to adapt to new environment, new enterprise culture and new language environment. I tried my best to make myself as a professional hard work clerk instead of a student which just came out from the university. Of course, after this 3 months' period I increase my Italian vocabulary and can have better communications with other staffs.

The second thing I want to mention is that this work made me consider more about the future work, my future career path. I understand better what I want to do or we say what I intend to make as my job in future life. I found my interest and good capability in the Logistic sector, and I also prefer a job relative with this issue in the future.

Then I increased my working efficiency after this internship. Now I know how important punctuality is in an organization like Lucitalia. Everyone has their work flow and you can let others wait your task. The fruity of the work in the organization is very important. This maybe also impressed by some staffs there, I never saw someone with such kind of working power/energy who at the same time can guarantee a very high professional level of his results.

Also, I noticed some differences between theories and practices which is always mentioned by people who are already working. Something easy in the theory may not be the same thing in the reality; some reasonable obvious thing may cost you a whole day to figure out why this is right, why I should do in this way. I think this is good understanding before I really enter into the society.

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