

DIFFERENT TYPES OF INCOMPLETE BUILDINGS

a) The construction has not finished.



Castello di Rivoli, Contemporary Art Museum, Turin, Italy

b) Part of the building was badly damaged mainly in wars or earthquakes, and has been repaired in a distinct way. It is easy to distinguish between the original and restoration part.



The restored chapel and fresco, Chiesa degli Eremitani, Padova, Italy

c) The building was converted from ancient ruins and it looks incomplete from the outside. It is more proper to see it as a transformation of historic buildings.



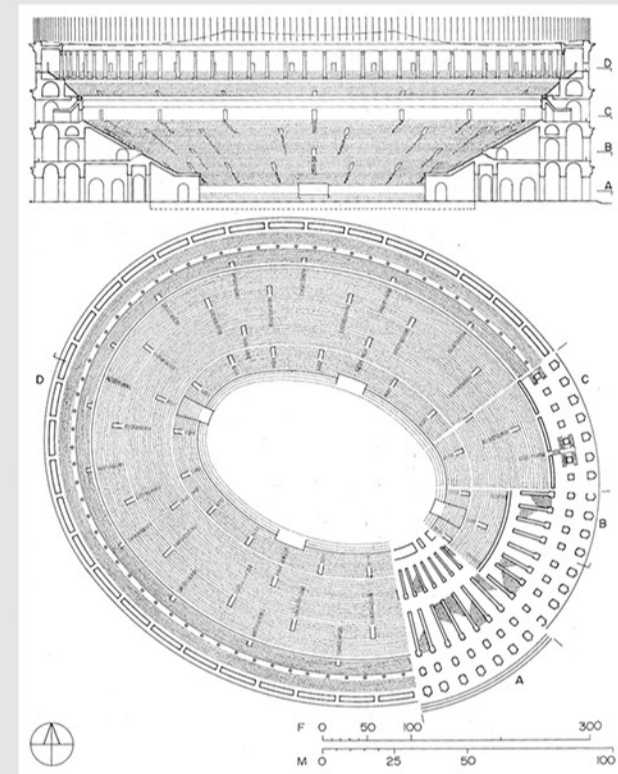
Basilica di Santa Maria degli Angeli e dei Martiri, Rome, Italy

POSSIBLE REASONS OF INCOMPLETE

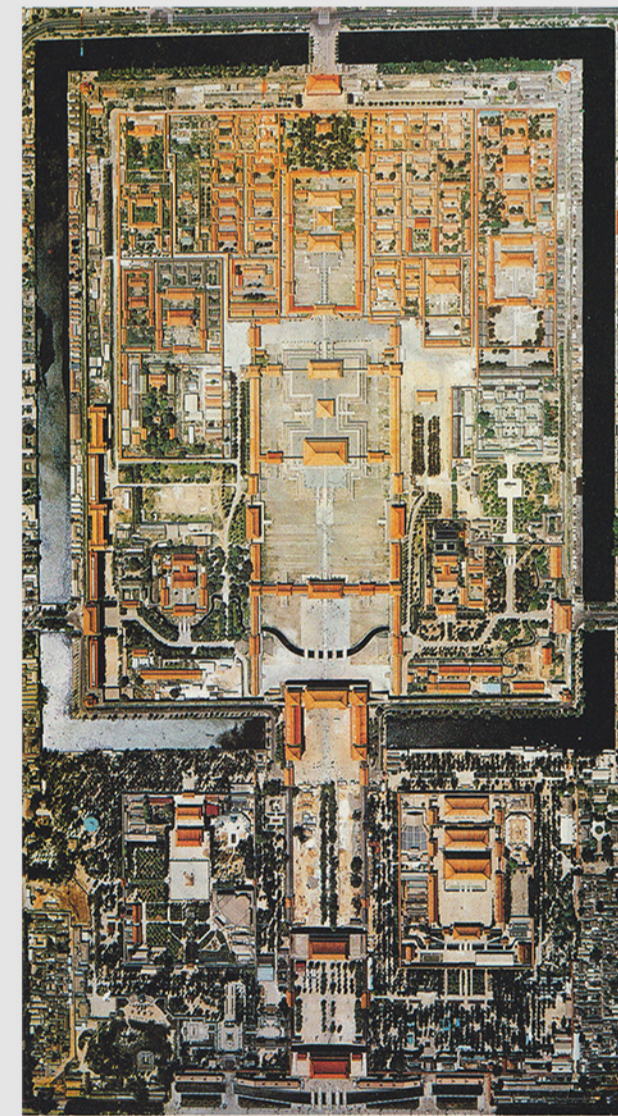
a) The long period of construction



The Pantheon
Location: Rome, Italy
Built in: ca. A.D. 120-127
Roman Empire
Main Structural Material: Roman concrete



The Colosseum
Location: Rome
Built in: A.D. 72-80,
Roman Empire
Main Structural Material: Roman concrete

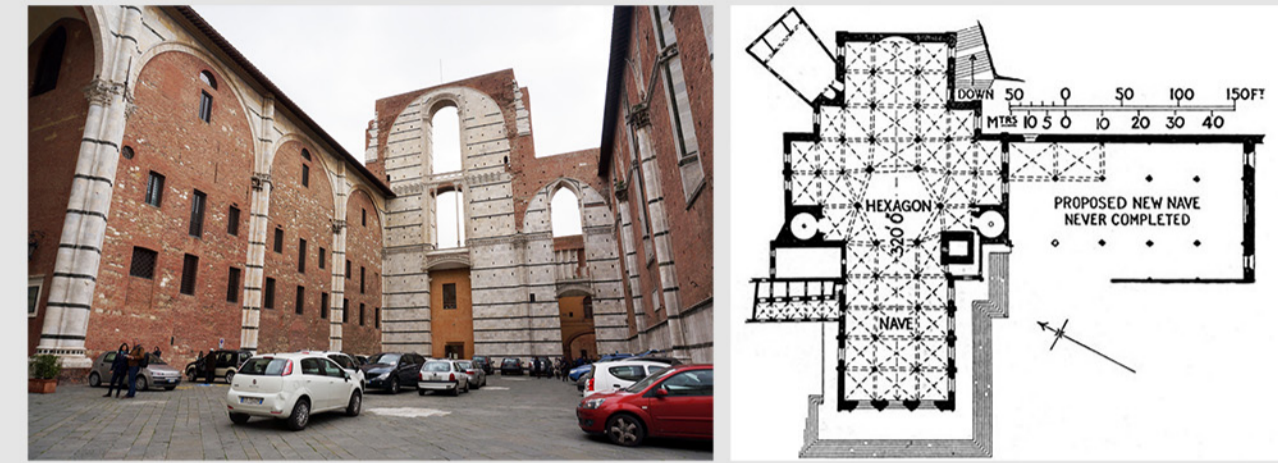


The Forbidden City
Location: Beijing, China
Built in: A.D. 1406-1420,
Ming Dynasty
Main Structural Material: Wood



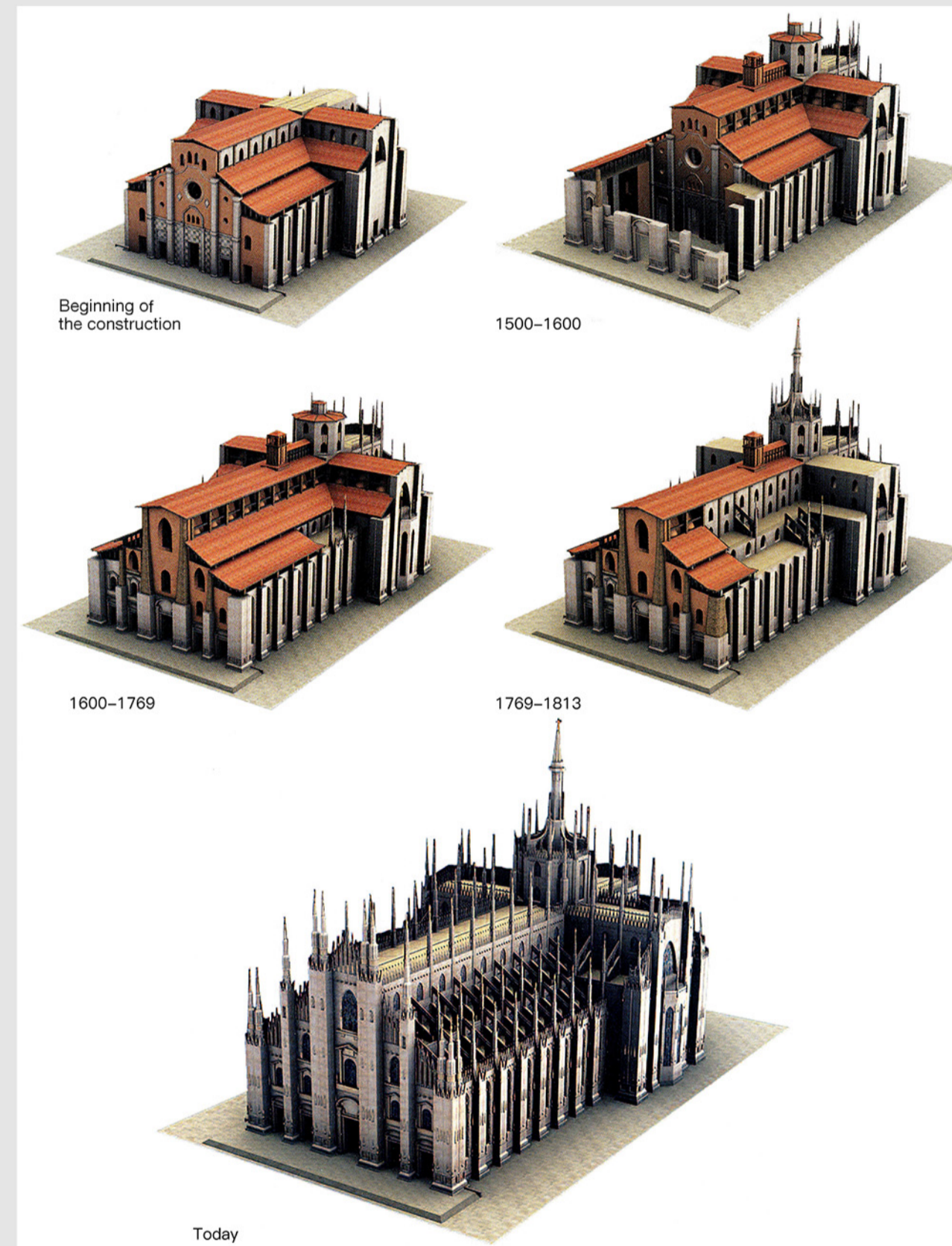
The Milan Cathedral
Location: Milan, Italy
Built in: A.D. 1386-1965
Main Structural Material: Brick

b) Structural Problem
The massive additional project of Duomo di Siena was finally abandoned due to safety reasons in 1355.

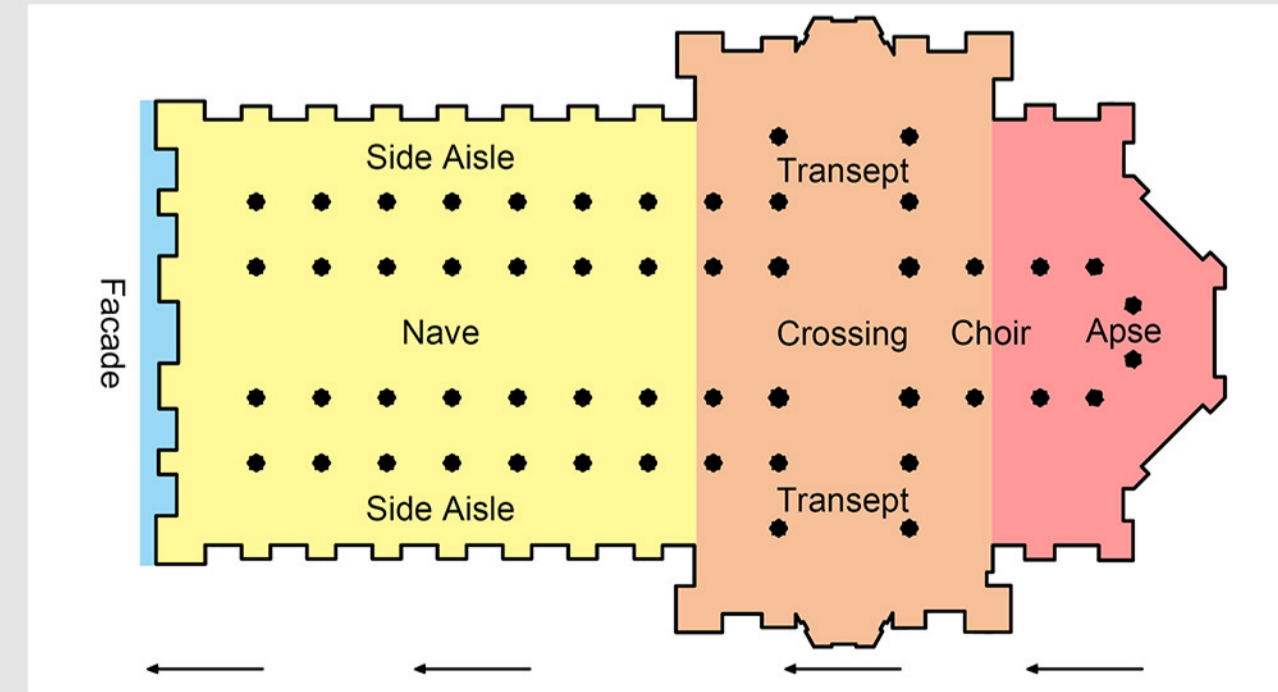


The abandoned project of Duomo di Siena

c) The order of construction



Principle phases of construction of Milan Cathedral



The order of construction in a church

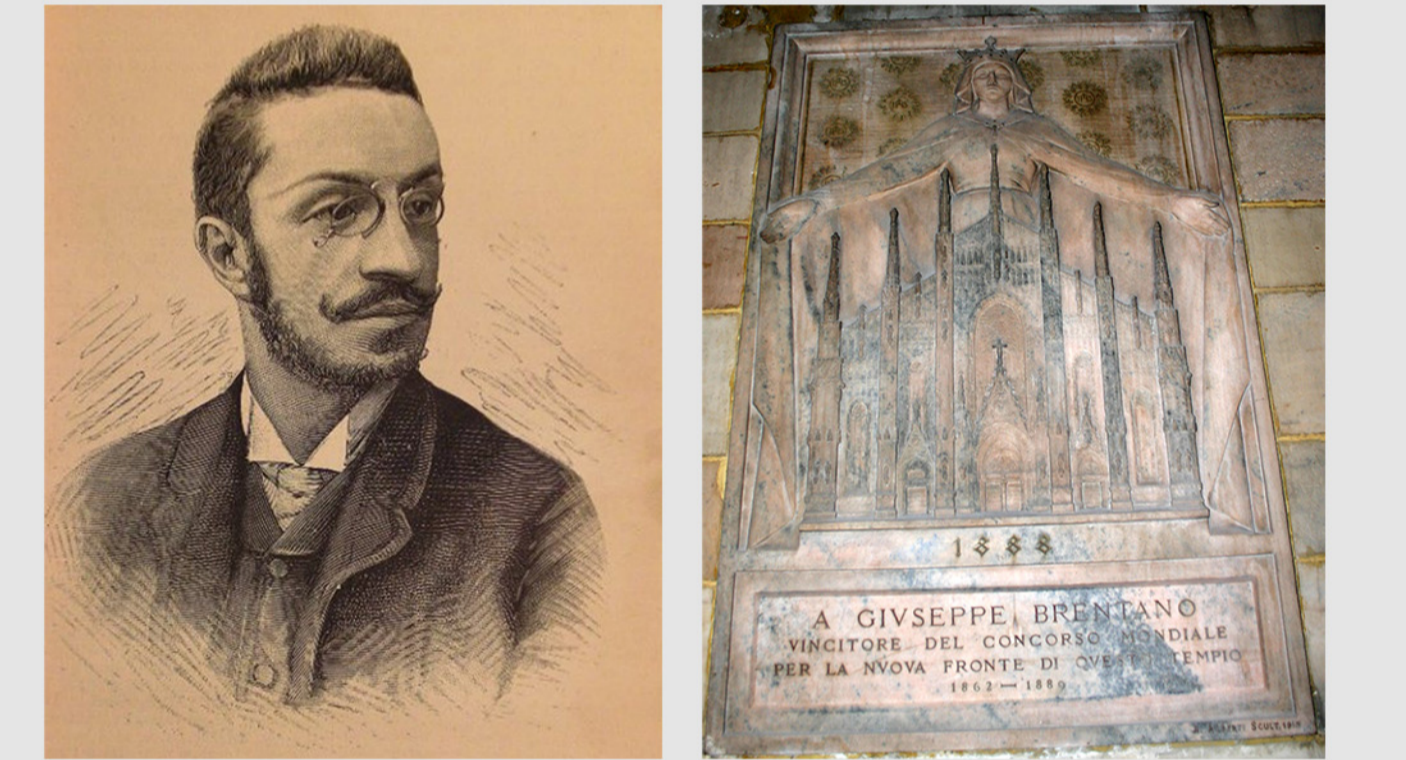
d) Lack of funding and workers.
Wars and plagues were two main reasons for project shutdown.



The additional construction of Duomo di Siena was first slowed and then halted due to the terrible plague in 1348.

e) The death of patrons

f) The death of chief architects



After Giuseppe Brentano's sudden death in 1889, the new project for the facade was abandoned.

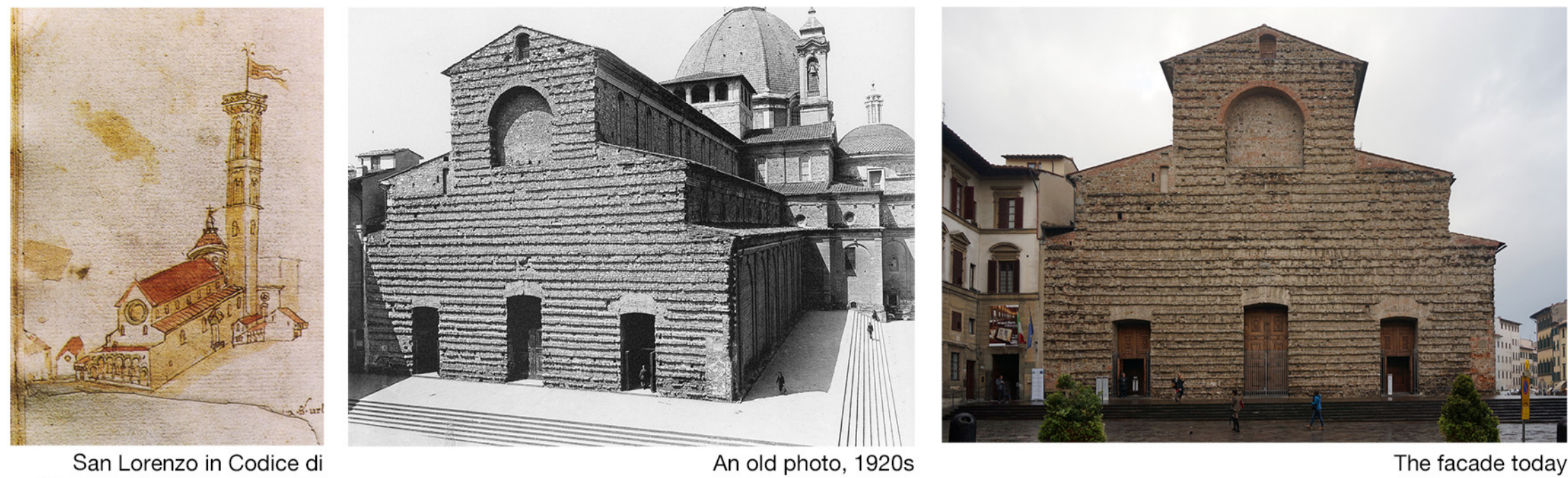
g) The importance of the architecture itself



Poster calling the Florentines to a plebiscite to decide Duomo's facade

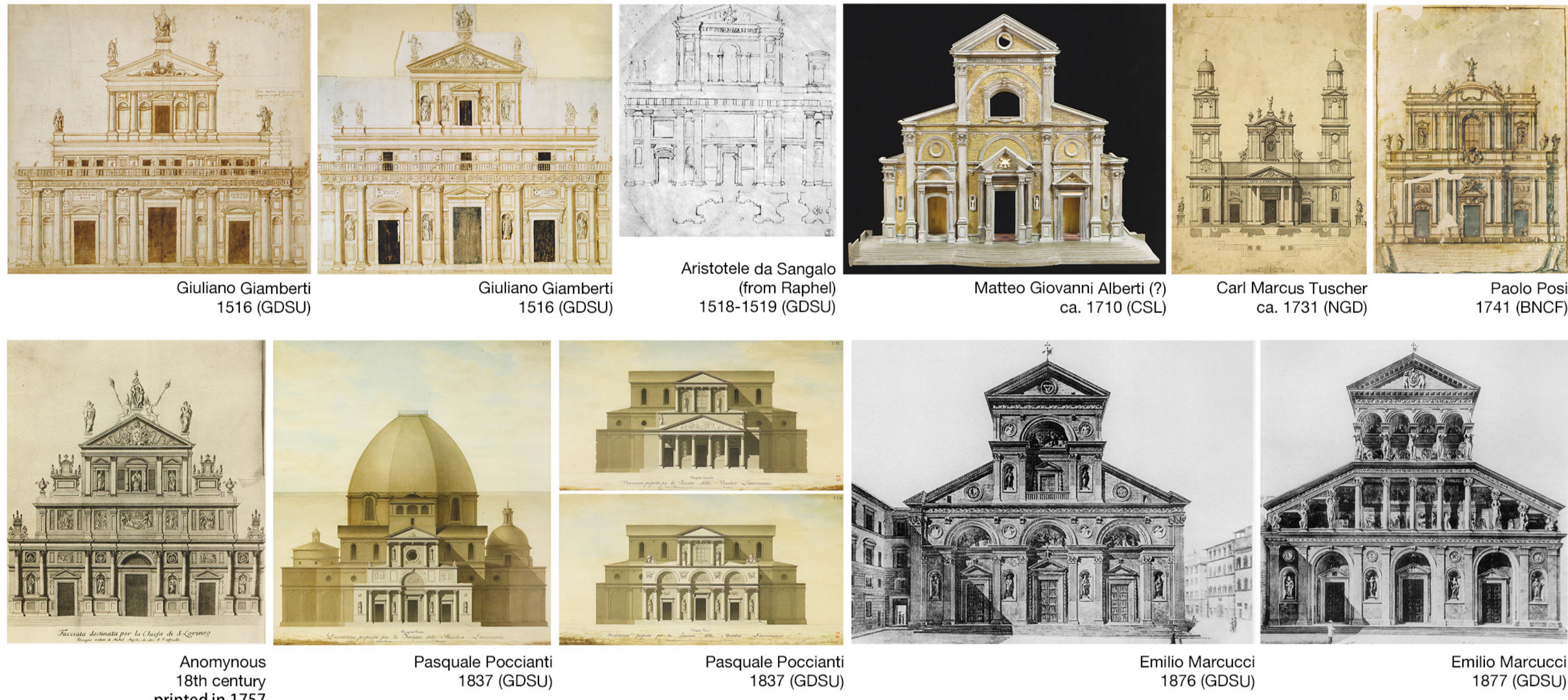
Poster for the competition of San Lorenzo's facade

THE FACADE IN HISTORY



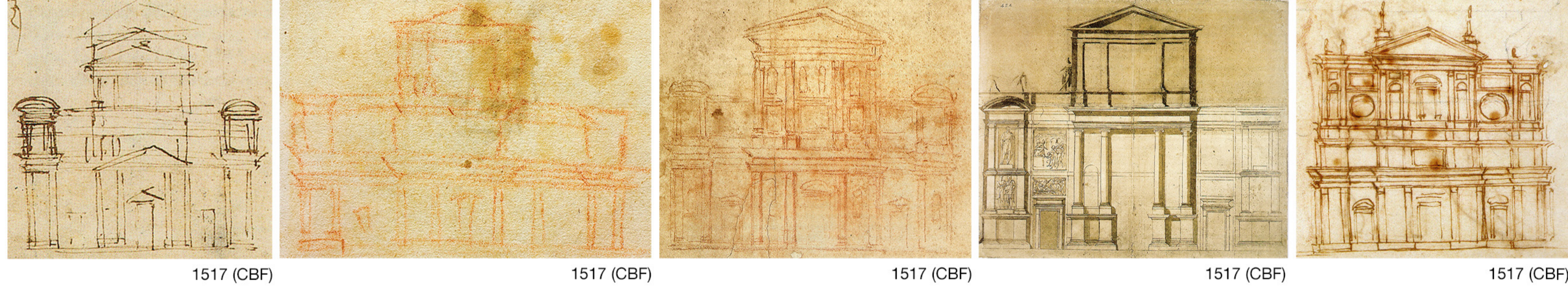
San Lorenzo in Codice di Marco di Bartolomeo Rustici ca. 1450 (SMSFC) An old photo, 1920s The facade today

PROJECT FOR THE FACADE



Giuliano Giamberti 1516 (GDSU) Giuliano Giamberti 1516 (GDSU) Aristotele da Sangalo (from Raphael) 1518-1519 (GDSU) Matteo Giovanni Alberti (?) ca. 1710 (CSL) Carl Marcus Tuscher ca. 1731 (NGD) Paolo Posi 1741 (BNCF) Anonynous 18th century printed in 1757 Pasquale Poccianti 1837 (GDSU) Pasquale Poccianti 1837 (GDSU) Emilio Marcucci 1876 (GDSU) Emilio Marcucci 1877 (GDSU)

MICHELANGELO BUONARROTI'S PROJECTS FOR THE FACADE



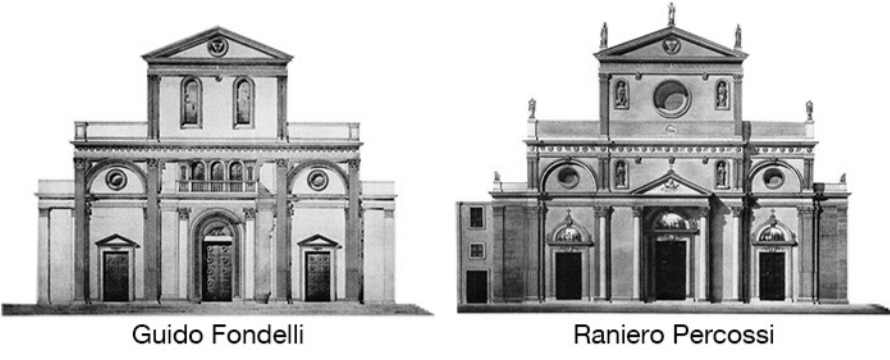
1517 (CBF) 1517 (CBF) 1517 (CBF) 1517 (CBF) 1517 (CBF)



Wood Model for the project ca. 1518 (CBF) Projection Michelangelo's projects on the facade of San Lorenzo Sep 14, 2007 Reconstruction the facade inspired by the wod model studioDIM associati 2009

COMPETITION FOR THE FACADE OF BASILICA DI SAN LORENZO
FIRST COMPETITION, 1901 SECOND COMPETITION, 1905

1



Guido Fondelli Raniero Percossi

2.1



Raniero Percossi Luigi e Giovanni Bellincioni Augusto Giustini



Guglielmo Calderini Dario Guidotti Dario Guidotti



Enrico Dante Fantapple Guglielmo Calderini Enrico Lusini



Edoardo Collamarini (ABAB)

2.2



Roberto Giannini Luigi Caldini Luigi Caldini



Luigi Caldini



Dario Guidotti

3



Cesare Bazzani Cesare Bazzani Rodolfo Sabatini



Cesare Bazzani Cesare Bazzani Cesare Bazzani



Enrico Lusini Cesare Bazzani Edoardo Collamarini



Enrico Lusini Rodolfo Sabatini

4



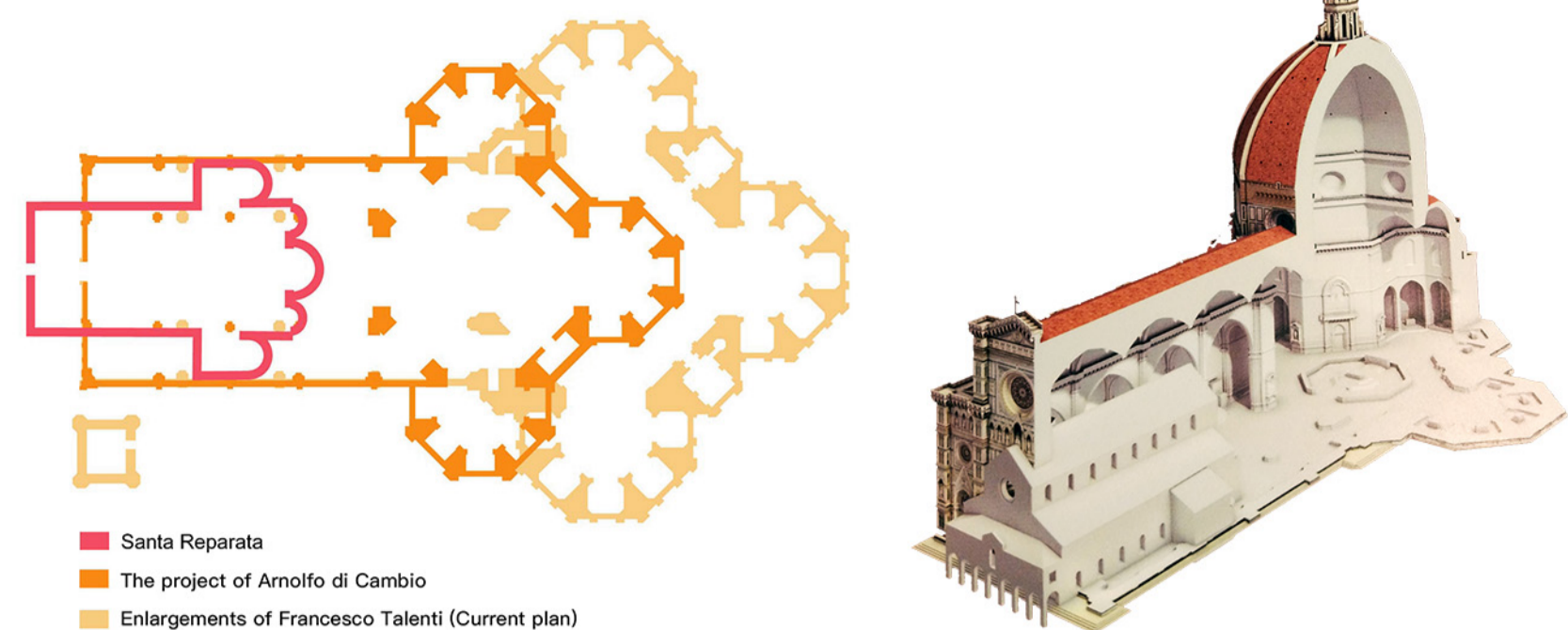
Arturo Tricomi Lorenzo Cecchi Ulpiano Bucci



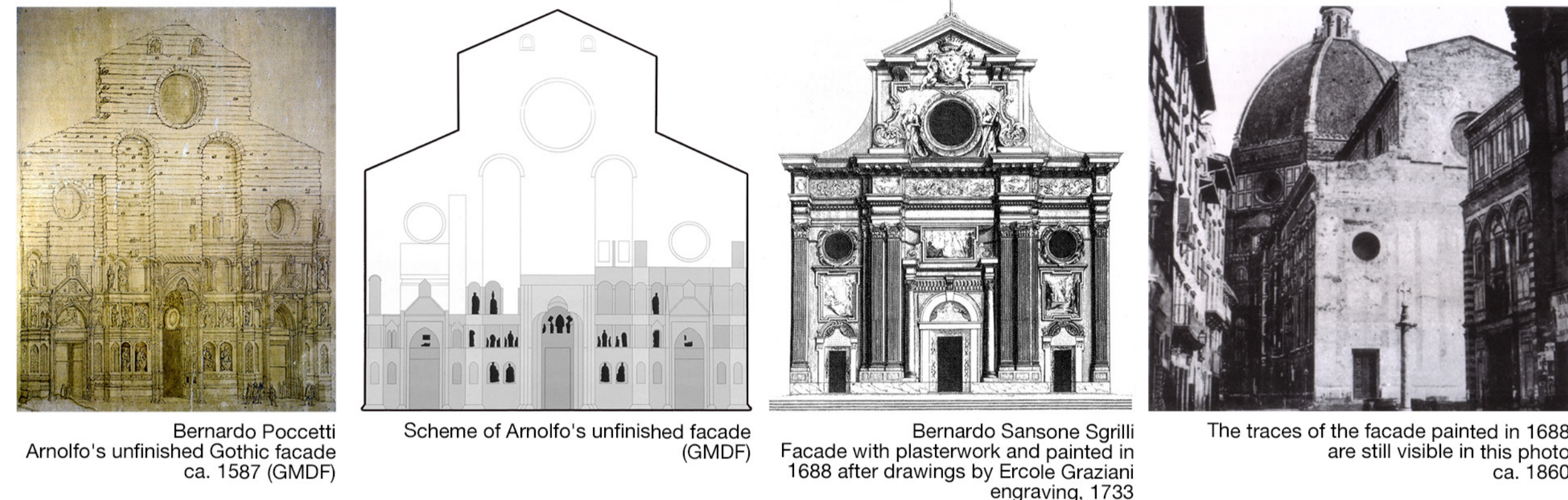
Edoardo Collamarini Edoardo Collamarini (ABAB) Edoardo Collamarini (ABAB)

Unless stated otherwise, all pictures come from Archivio Storico del Comune di Firenze (ASCF).

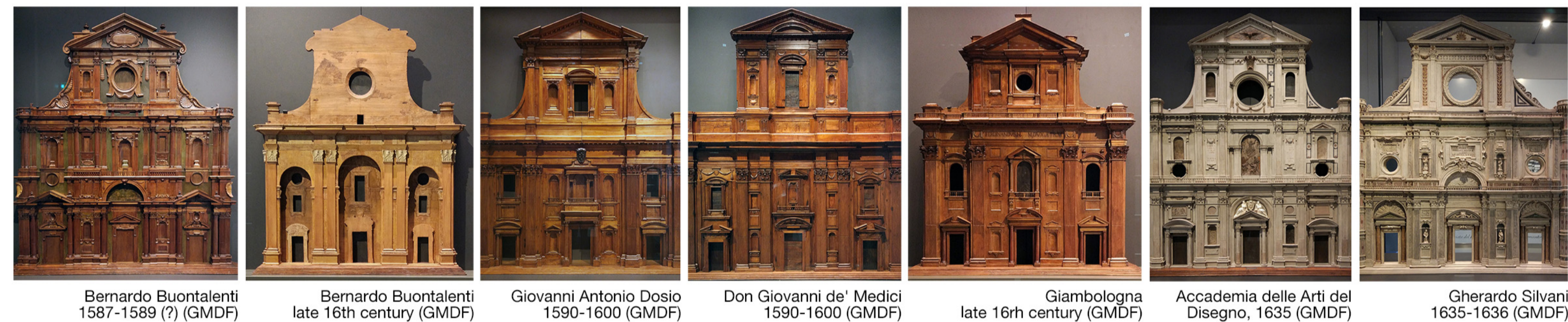
FROM SANTA REPARATA TO SANTA MARIA DEL FIORE



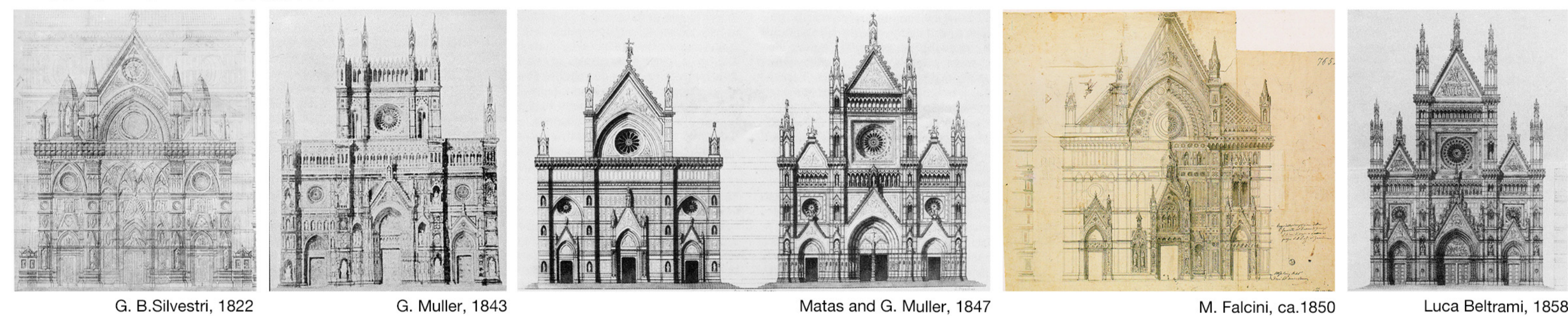
FACADE IN HISTORY



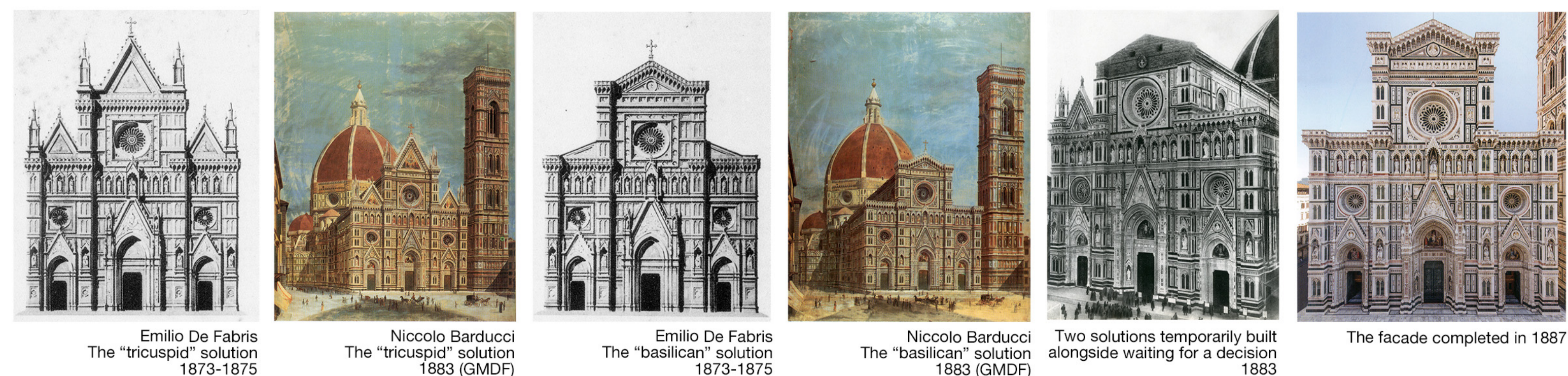
MODELS OF PROJECTS FOR THE NEW FACADE



PROJECT FOR THE FACADE



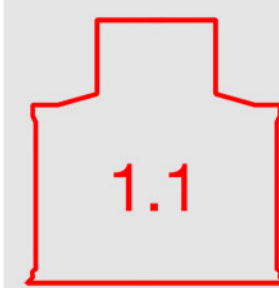
COMPLETION OF THE FACADE



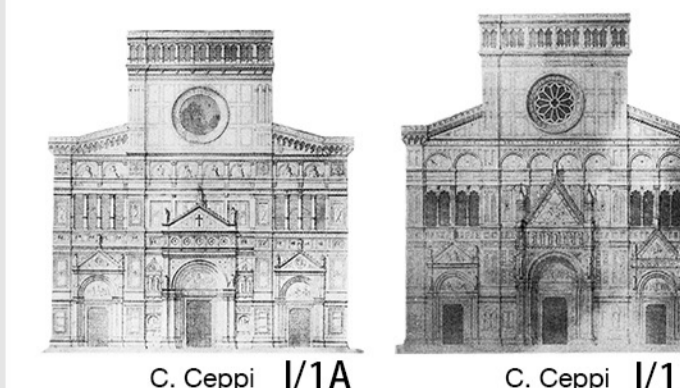
INTERNATIONAL COMPETITION FOR THE FACADE OF CATTEDRALE DI SANTA MARIA DEL FIORE

FIRST COMPETITION, 1861-1863

SECOND COMPETITION, 1863-1865



Designs taken into consideration
 ☆ Design announced and awarded with a minor prize
 ★ Award-winning design



The number given in each type (1-5) represents the design considered from worse to better



Anonymous



Anonymous



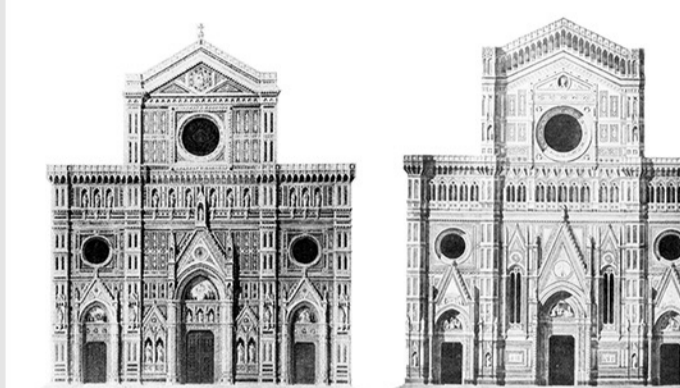
Anonymous



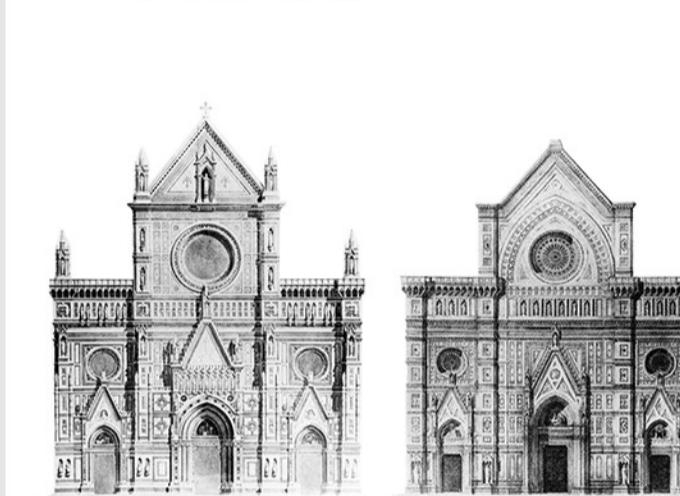
★ Anonymous



★ V. Fughini



M. Falcini I/2A A. Nardini D.M. I/4



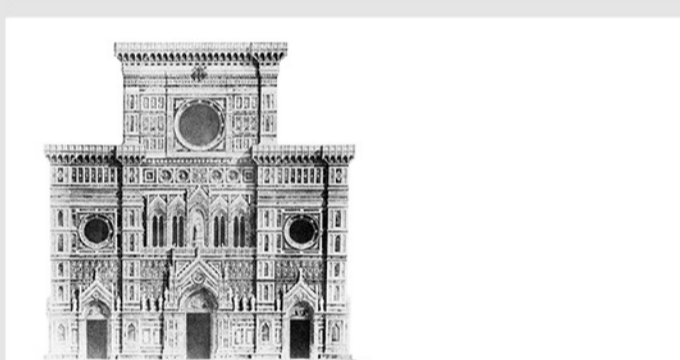
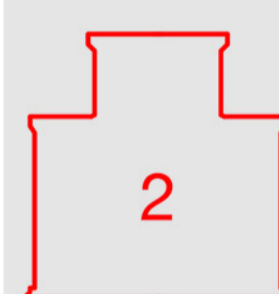
C. Boito I/3 M. Majorfi I/5



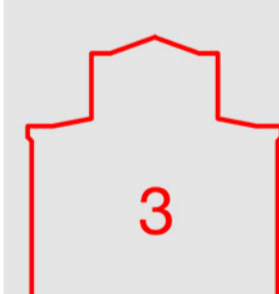
★ M. Falcini



M. Falcini I/2B



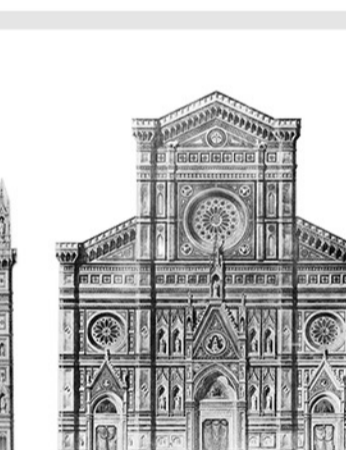
A. Scala II/1



Anonymous



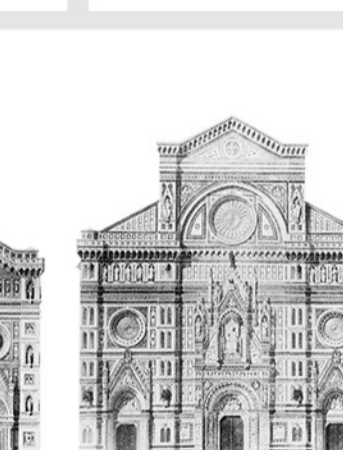
★ M. Majorfi



★ C. Ceppi



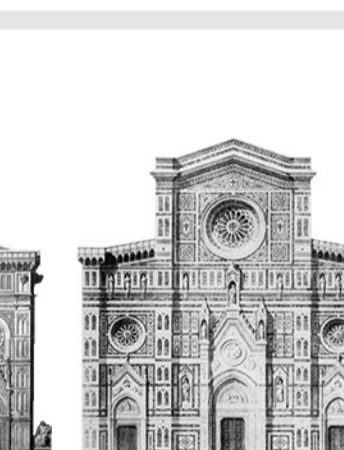
F. Lodi III/1



A. Cipolla III/2



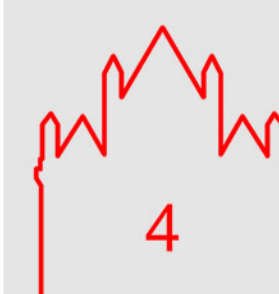
E. Alvino III/3



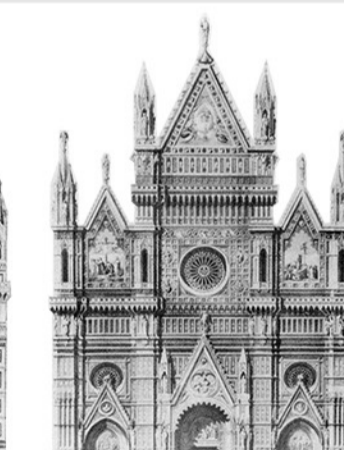
G. Calderini III/4



V. V. Petersen III/5



Anonymous



P. Marchetti



Anonymous



G. Felli and E. Bartoli

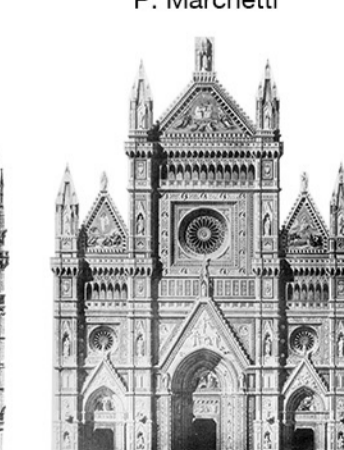


K. Hasenauer IV/1 ★ E. De Fabris IV/2

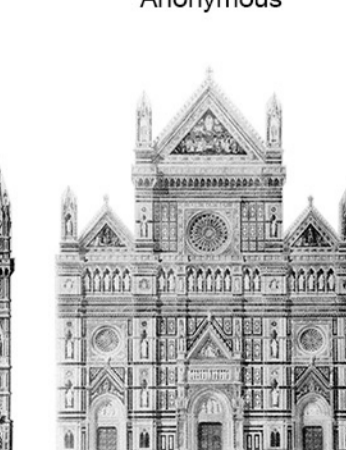
WINNER OF THE THIRD COMPETITION 1865-1866



★ P. Bonghi-Casuccini



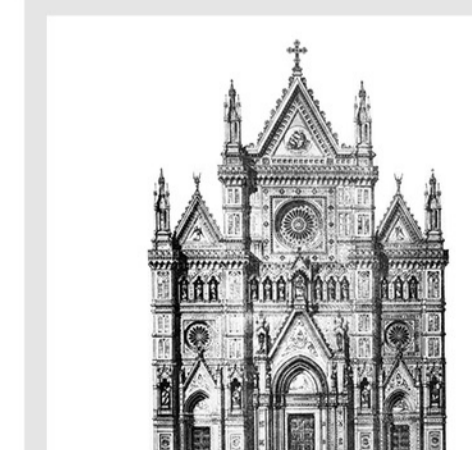
★ G. Partini



★ M. Treves

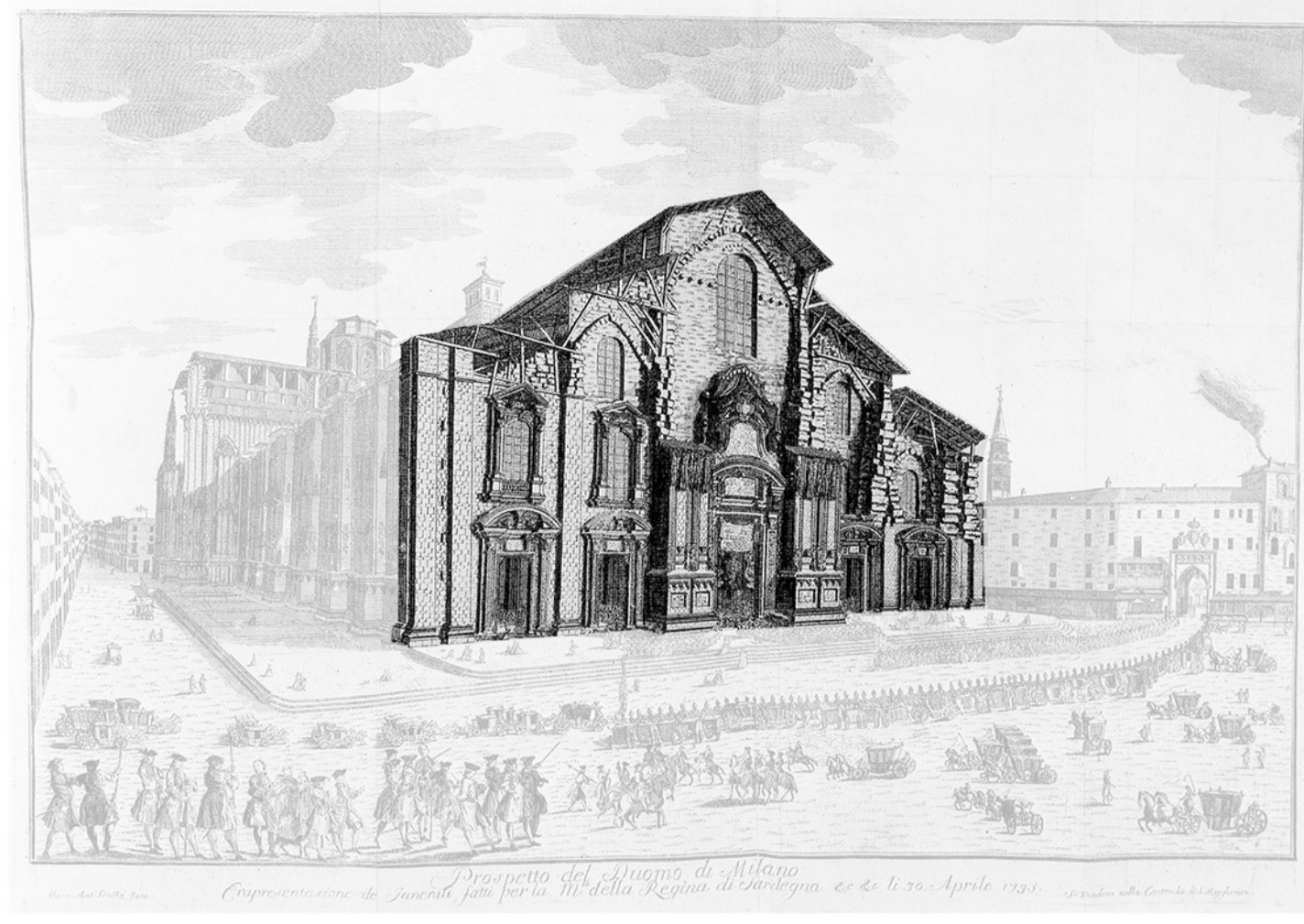


★ V. V. Petersen

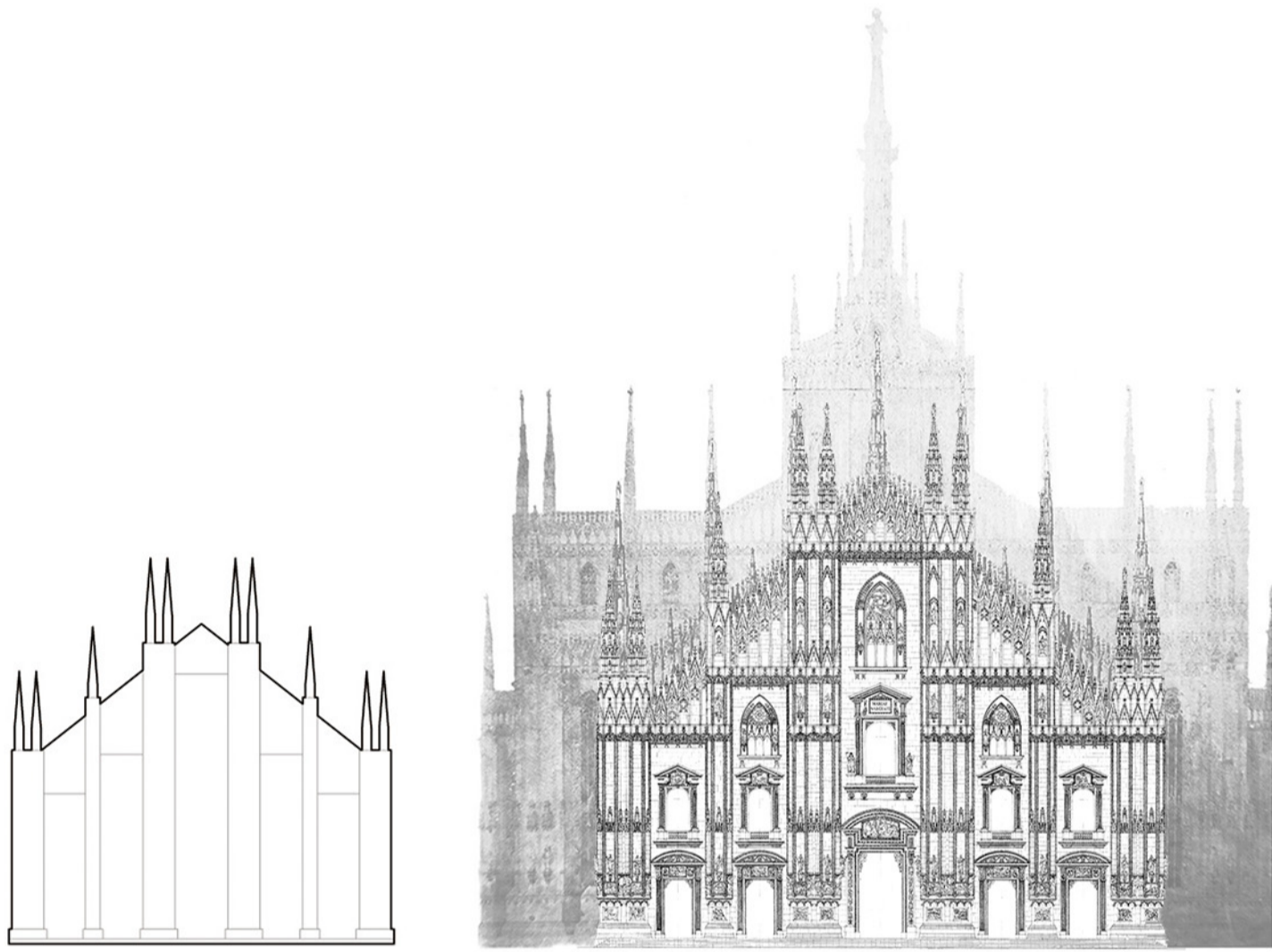


★ E. De Fabris

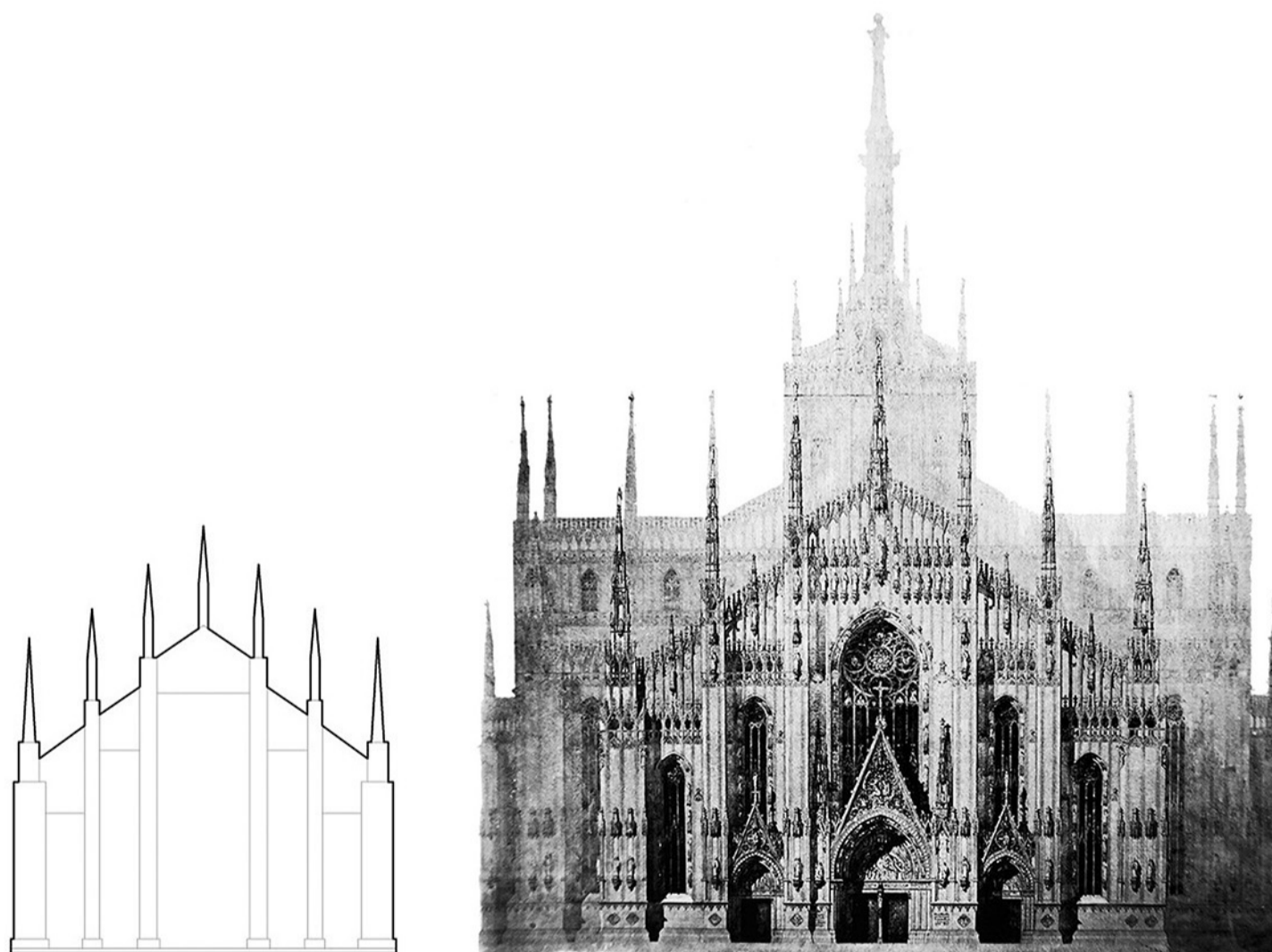
THE FACADE IN HISTORY



Marc'Antonio Dal Re, Duomo di Milano, engraving, ca. 1745



The facade today

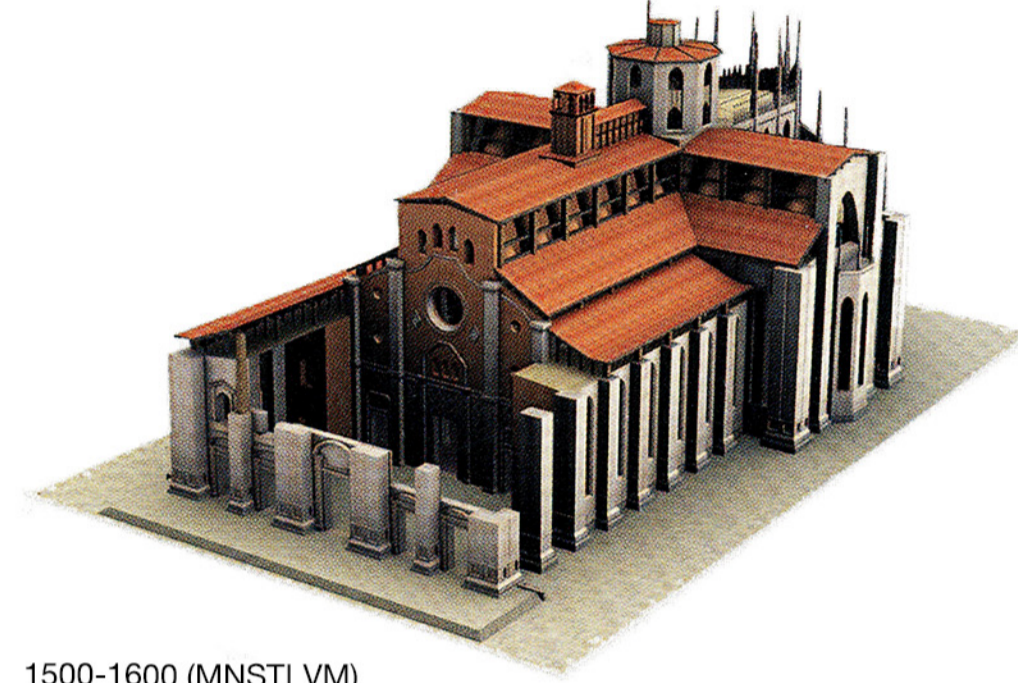


Giuseppe Brentano's implemented facade

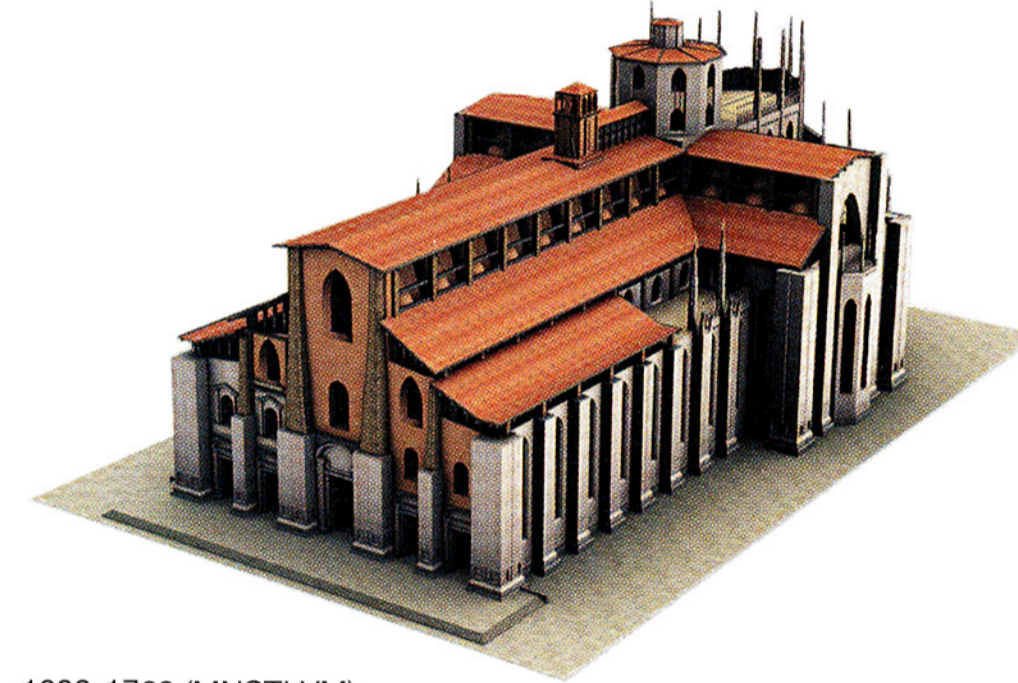
PRINCIPLE PHASES OF CONSTRUCTION



Beginning of the construction (MNSTLVM)



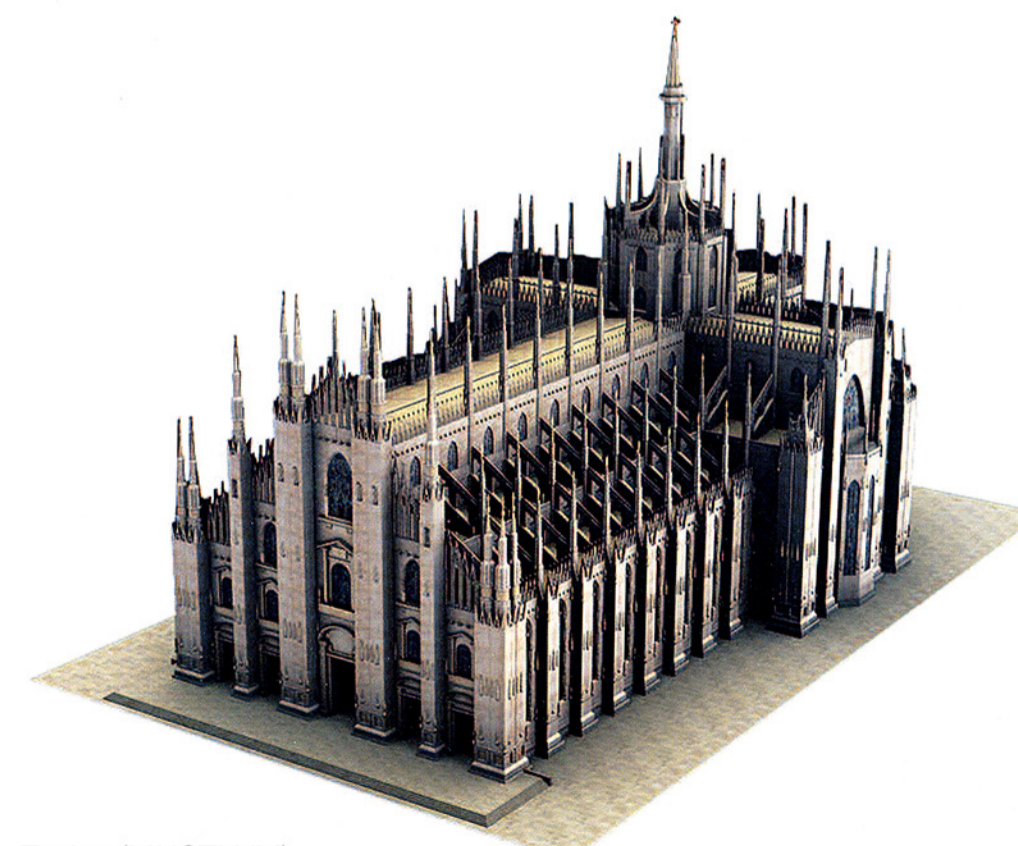
1500-1600 (MNSTLVM)



1600-1769 (MNSTLVM)



1769-1813 (MNSTLVM)



Today (MNSTLVM)

PROJECT FOR THE FACADE



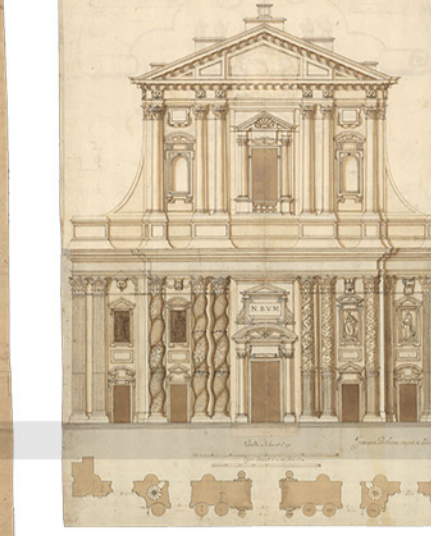
Martino Bassi ?
Pietro Antonio Barca ?
1590-1595 ?
(ASCMi)



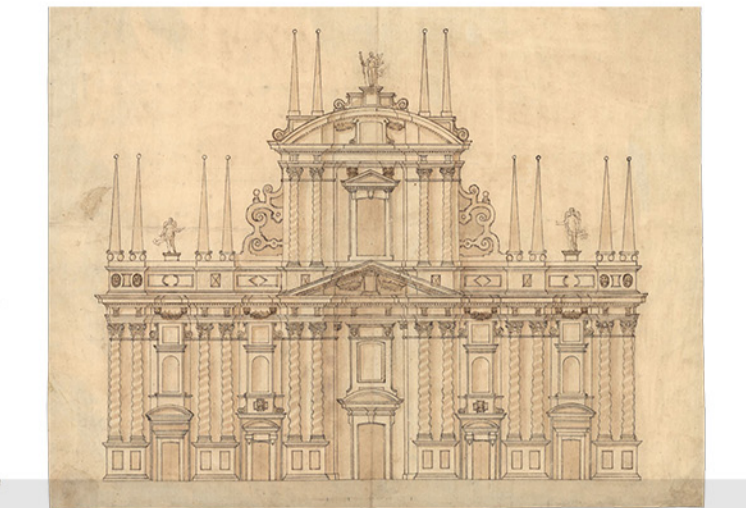
Francesco Maria Richino
1603
(ASCMi)



Francesco Maria Richino
1603-1606
(ASCMi)



Francesco Maria Richino
1603-1606
(ASCMi)



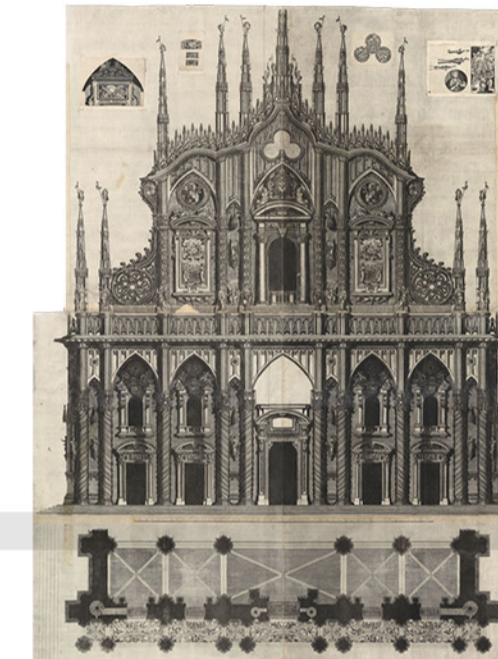
Francesco Maria Richino
1606
(ASCMi)



Francesco Maria Richino
1635-1637 ?
(ASCMi)



Carlo Buzzzi
1647
(ASCMi)



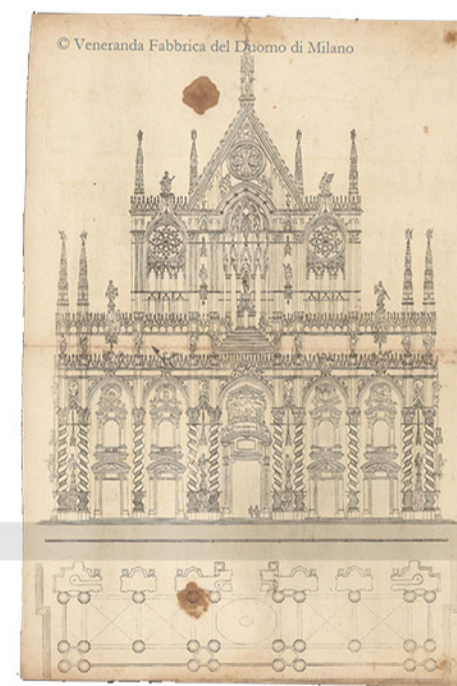
Francesco Castelli
1651
(ASCMi)



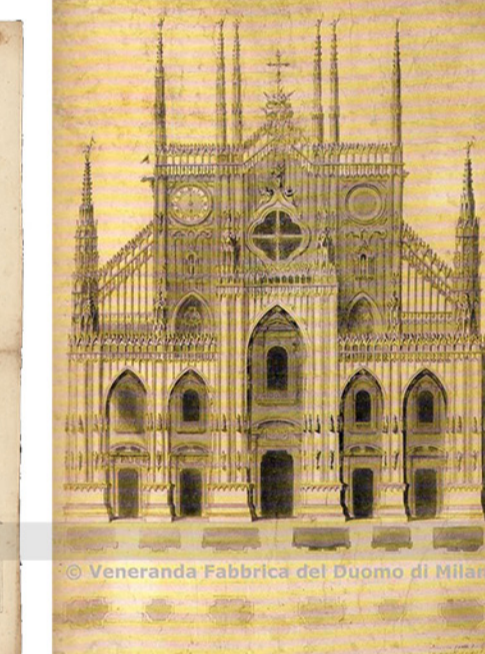
Giovanni Gattini ?
Giuseppe Pozzi ?
1653-/1668 ?
(AVFDMi)



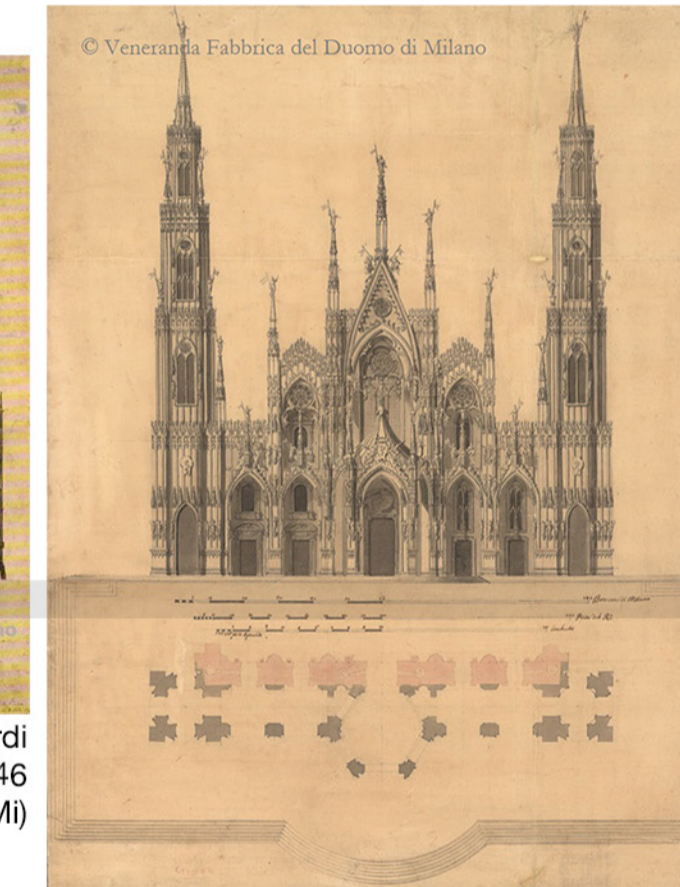
Anonymous
1700-1750 ?
(AVFDMi)



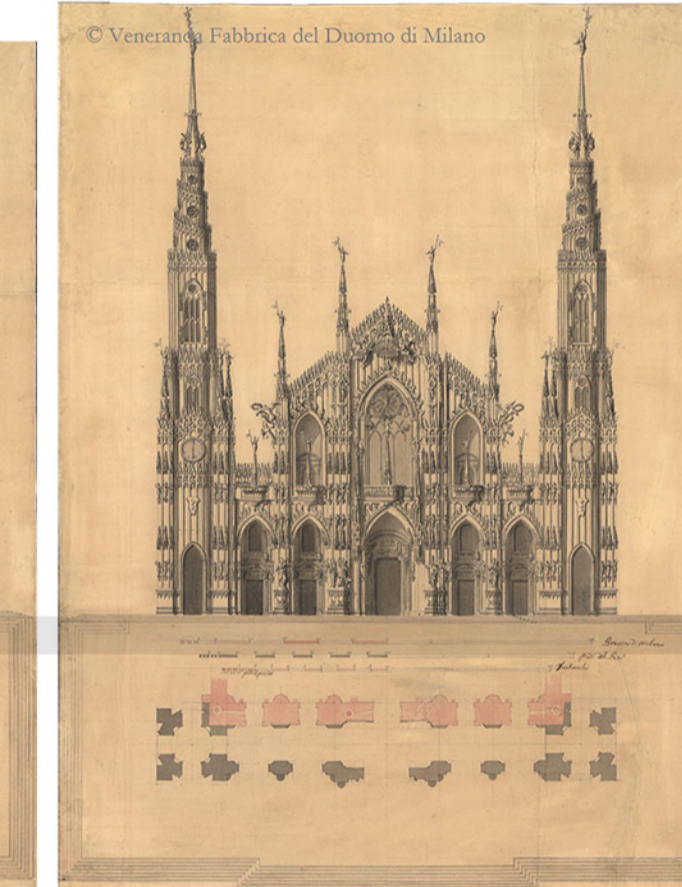
Luigi Vanvitelli
1745
(AVFDMi)



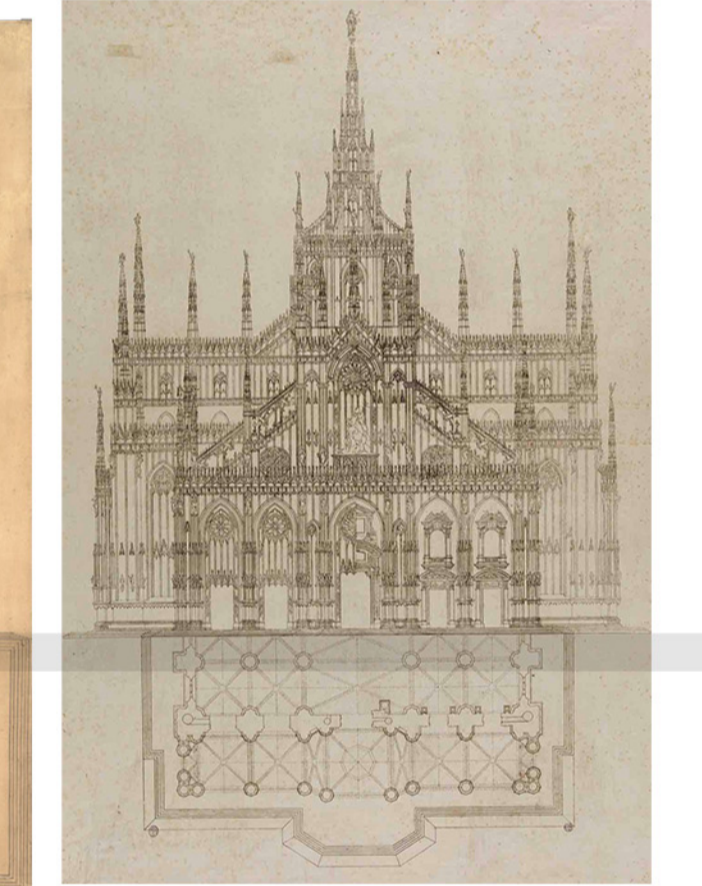
Giovanni Battista Riccardi
1746
(AVFDMi)



Bernardo Antonio Vittone
1746
(AVFDMi)



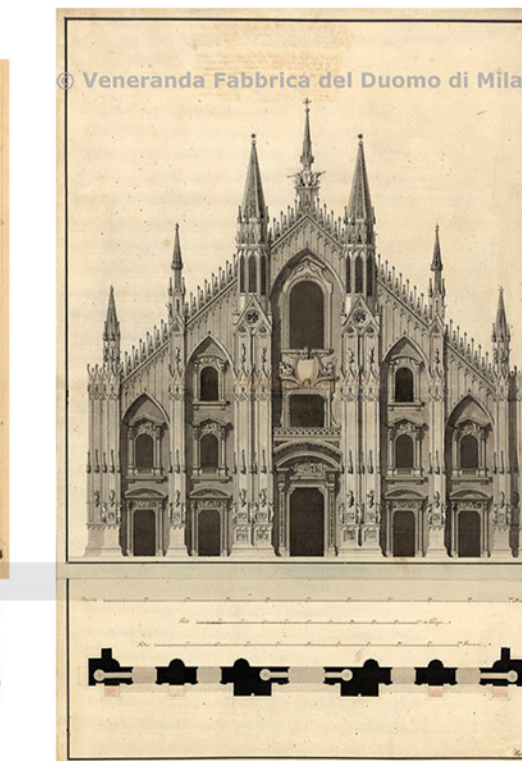
Bernardo Antonio Vittone
1746
(AVFDMi)



Carlo Giuseppe Merlo
1751
(CRSMi)



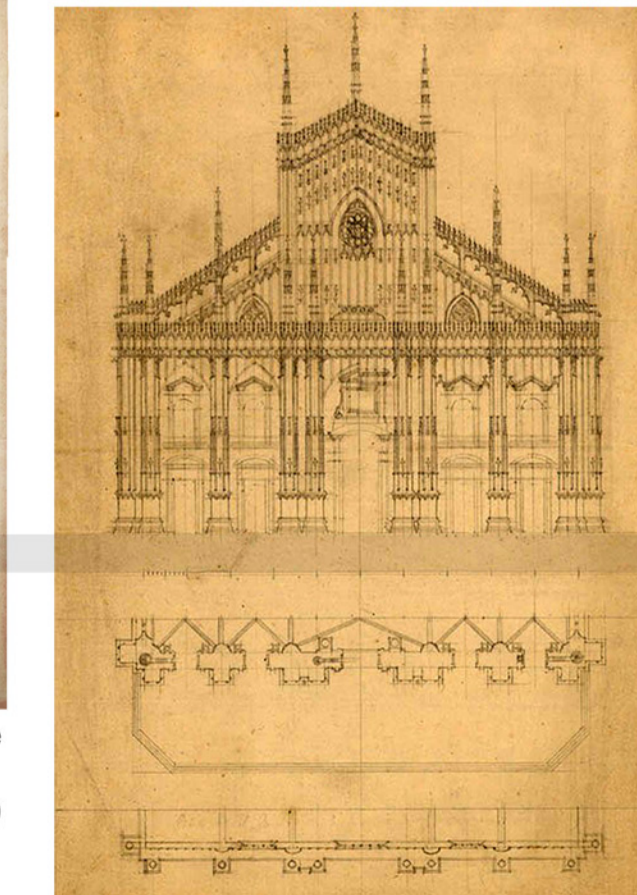
Giulio Galliori
1786-1787
(AVFDMi)



Leopoldo Pollack
1787
(AVFDMi)



Carlo Felice Soave
1791
(AVFDMi)



Giulio Galliori ?
1795 ?
(AVFDMi)

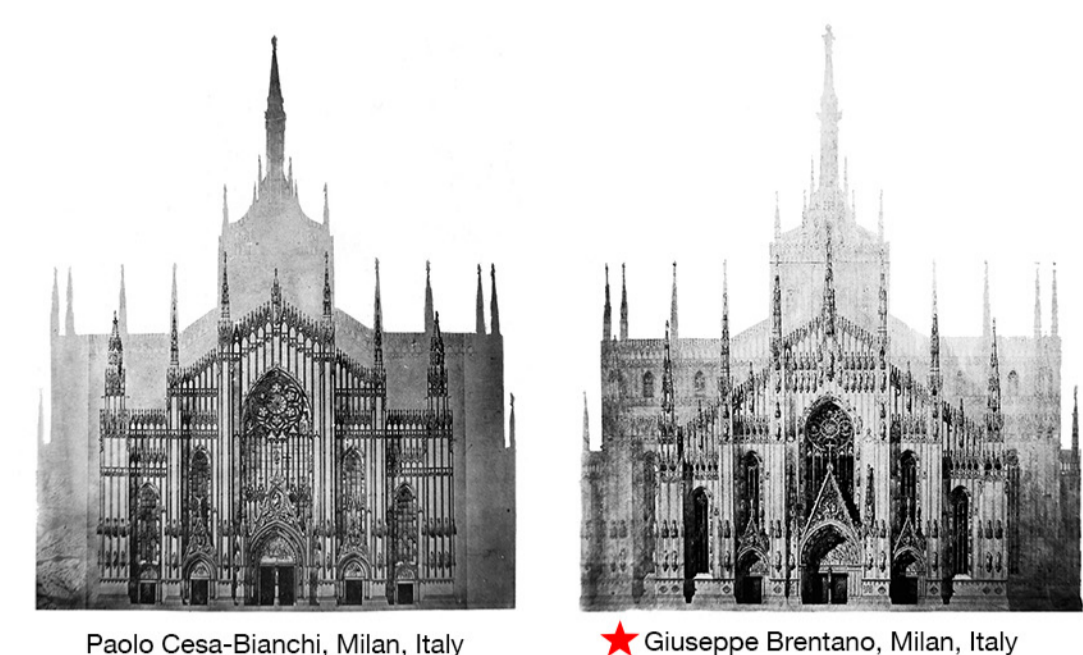


Cesare Pagano
1790-1800
(CRSMi)

1.1

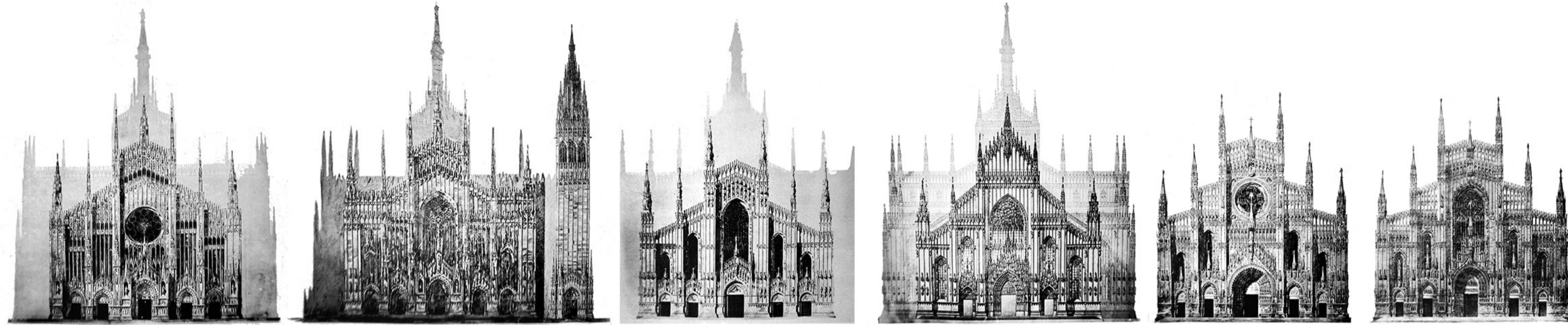


Tito Azzolini, Bologna, Italy Lodovico Becker, Mainz, Germany Luca Beltrami, Milan, Italy Giuseppe Brentano, Milan, Italy Antonio Weber, Vienna, Austria

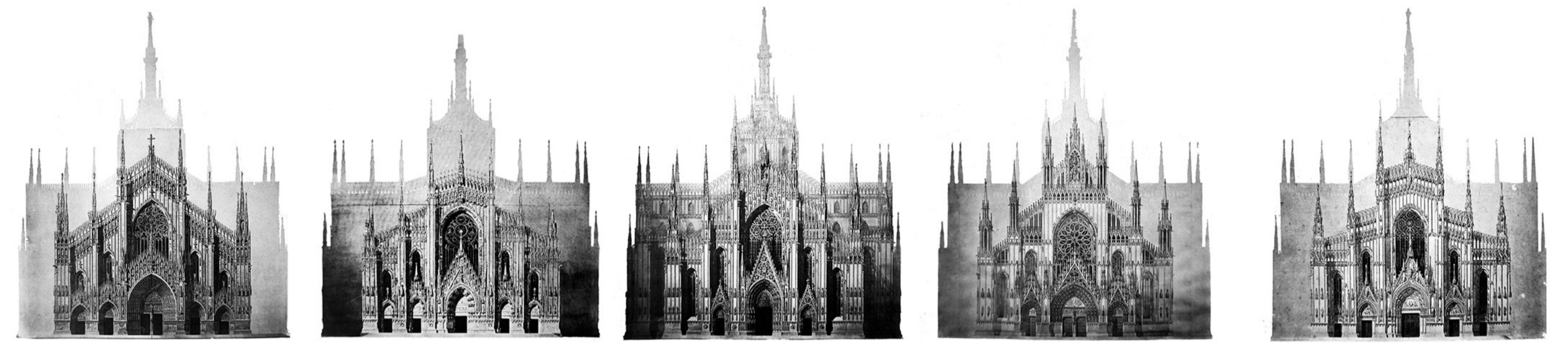


Paolo Cesa-Bianchi, Milan, Italy ★ Giuseppe Brentano, Milan, Italy

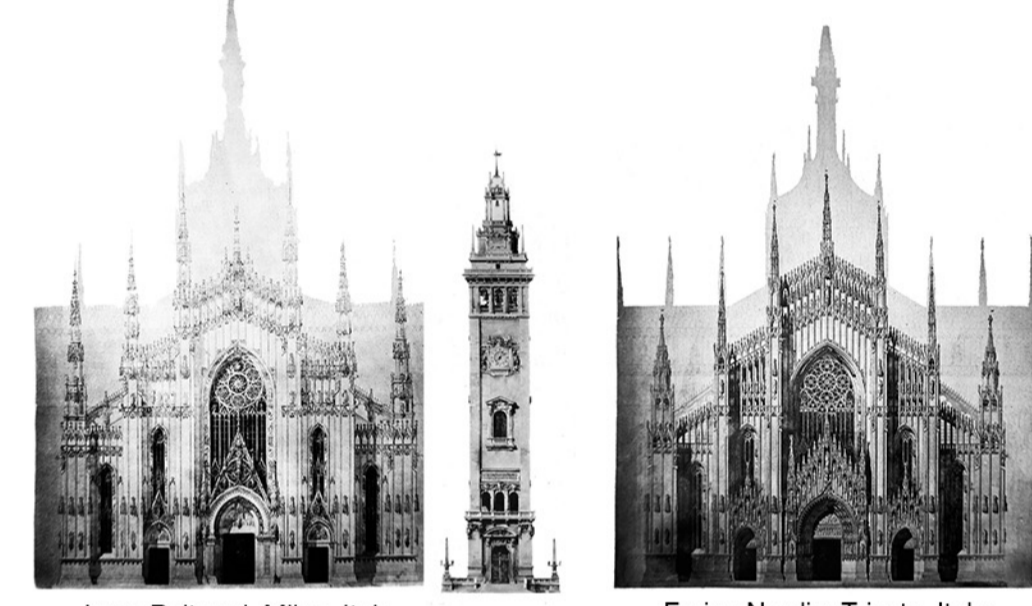
1.2



Paolo Cesa-Bianchi, Milan, Italy Paolo Cesa-Bianchi, Milan, Italy Gaetano Moretti, Milan, Italy Enrico Nordio, Trieste, Italy Giuseppe Locati, Milan, Italy Giuseppe Locati, Milan, Italy

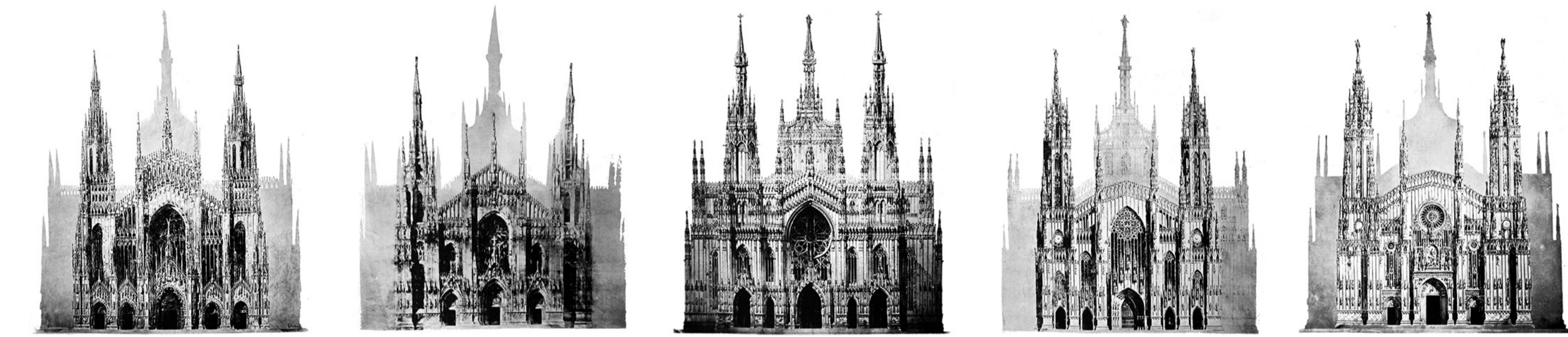


Lodovico Becker, Mainz, Germany Giuseppe Locati, Milan, Italy Tito Azzolini, Bologna, Italy Antonio Weber, Vienna, Austria Gaetano Moretti, Milan, Italy

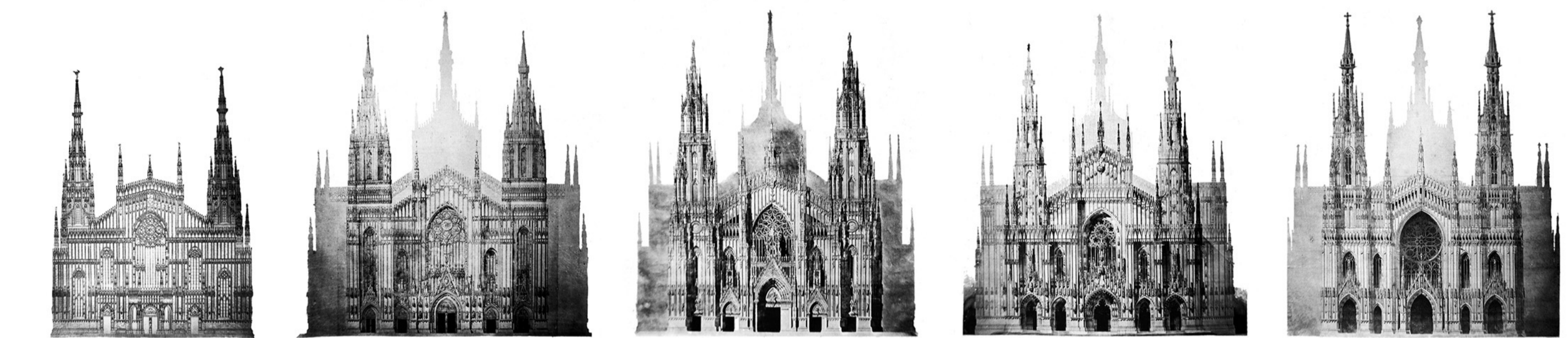


Luca Beltrami, Milan, Italy Enrico Nordio, Trieste, Italy

2.1

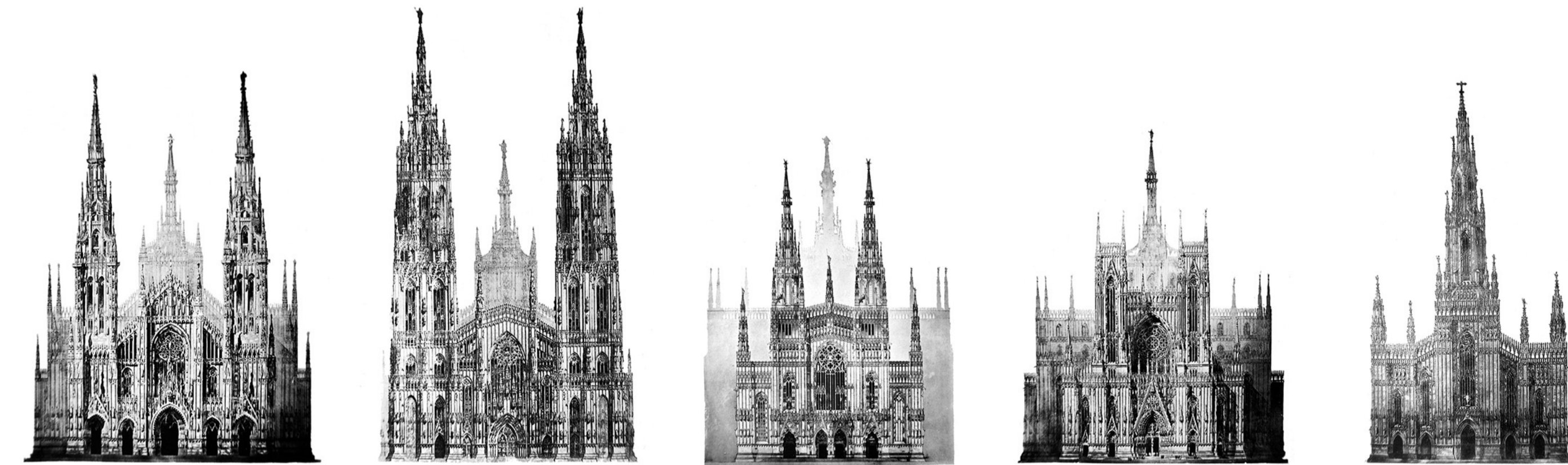


Paolo Cesa-Bianchi, Milan, Italy Giuseppe Brentano, Milan, Italy Edoardo Deperthers, Paris, France Carlo Ferrario, Milan, Italy Carlo Ferrario, Milan, Italy



Hartel and Neckelmann, Leipzig, Germany Paolo Cesa-Bianchi, Milan, Italy Carlo Ferrario, Milan, Italy Rodolfo Dick, Vienna, Austria Edoardo Deperthers, Paris, France

2.2

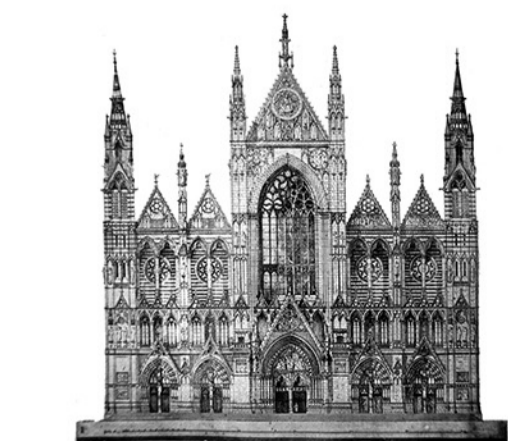


Rodolfo Dick, Vienna, Austria Carlo Ferrario, Milan, Italy Hartel and Neckelmann, Leipzig, Germany Teodoro Ciaghin, Petersburg, Russia Gaetano Moretti, Milan, Italy

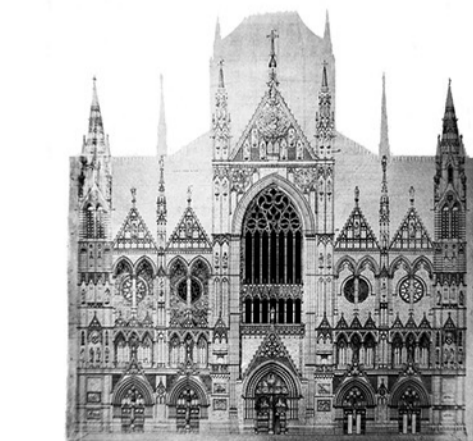


Hartel and Neckelmann, Leipzig, Germany

2.3

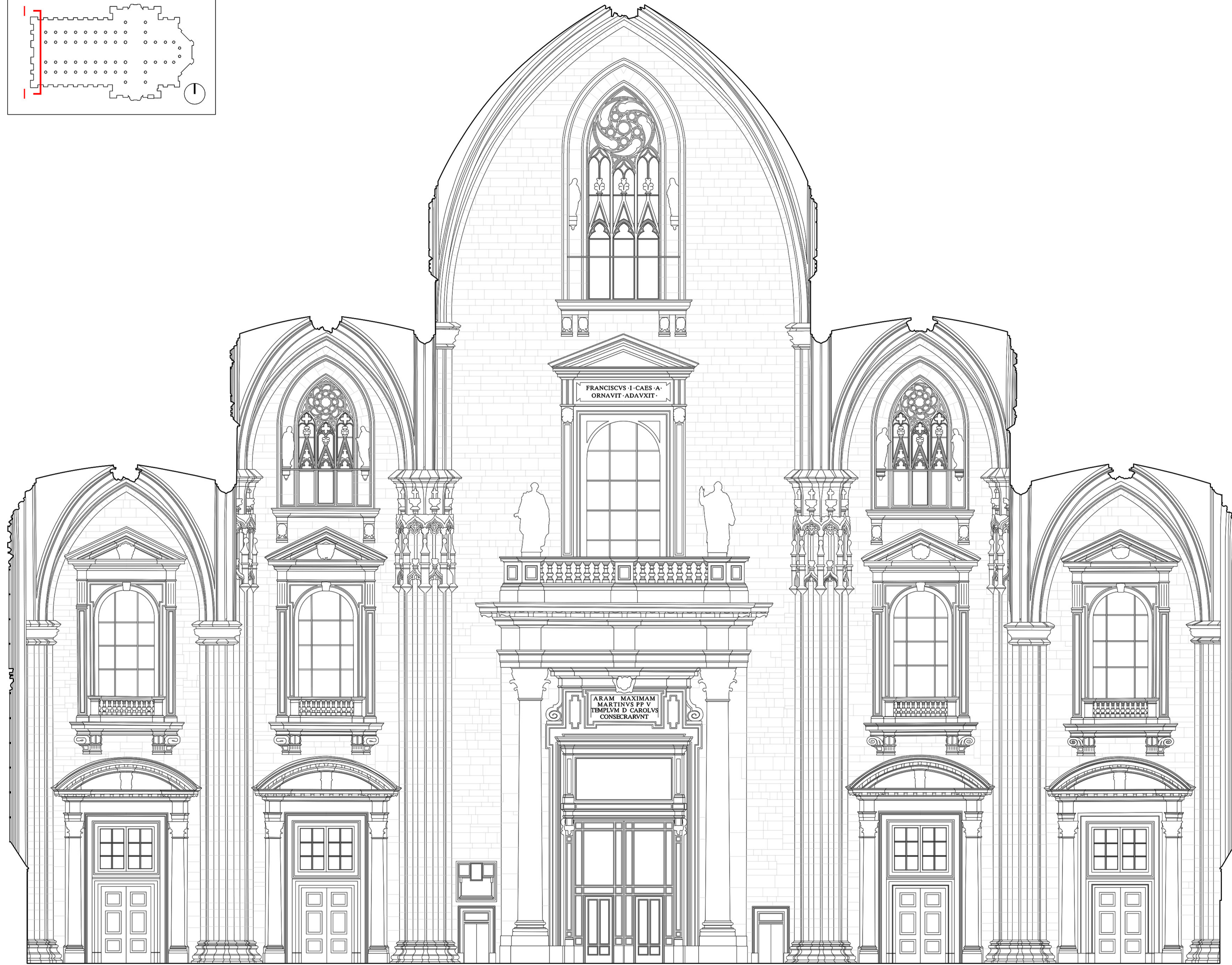
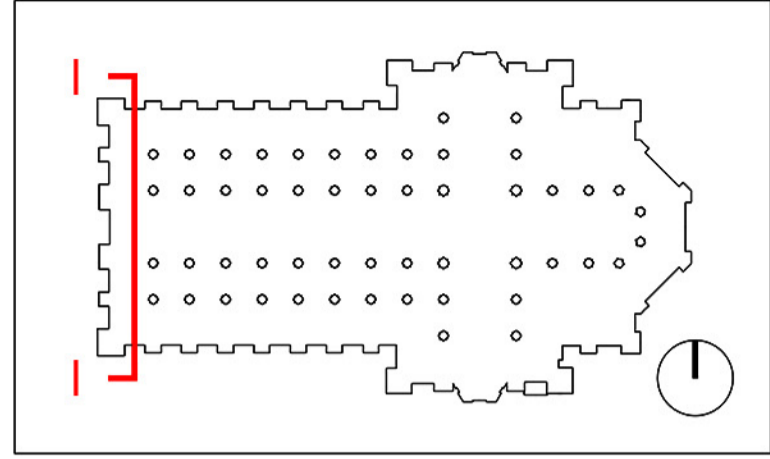


Daniele Brade, Kendal, England

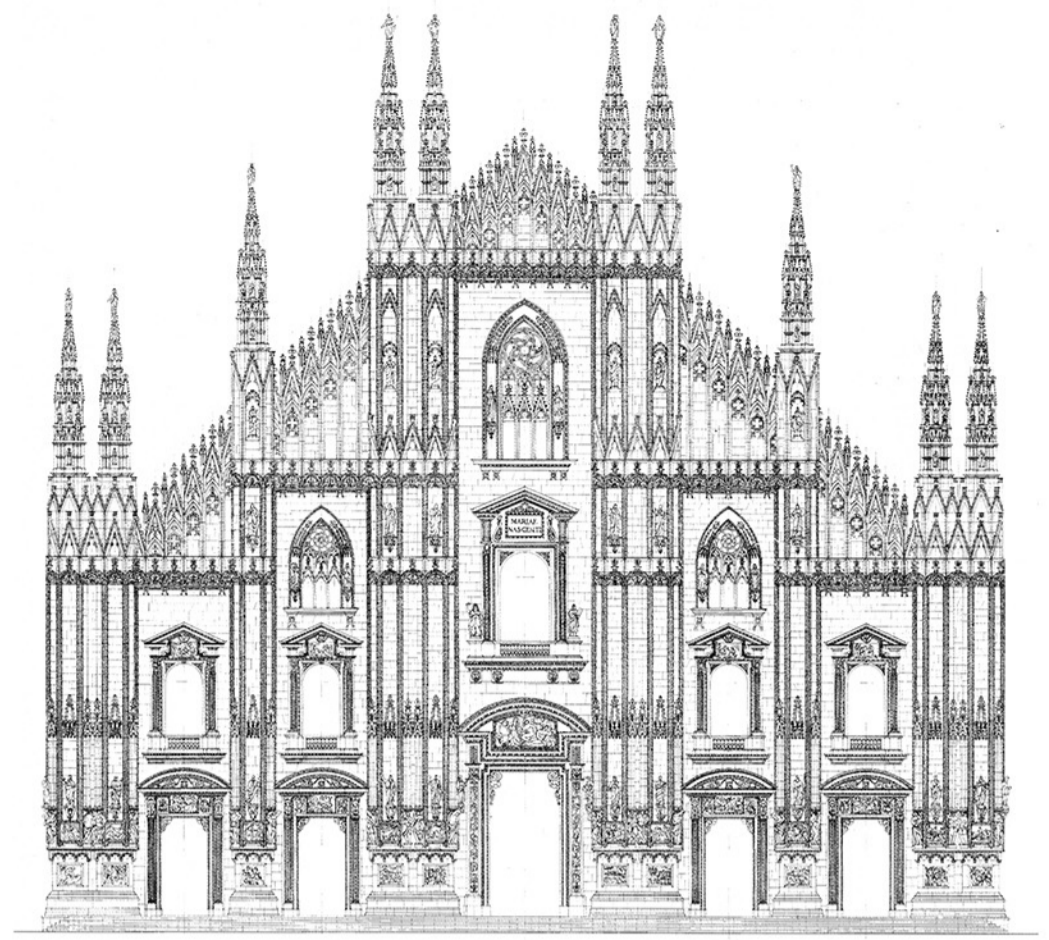


Daniele Brade, Kendal, England

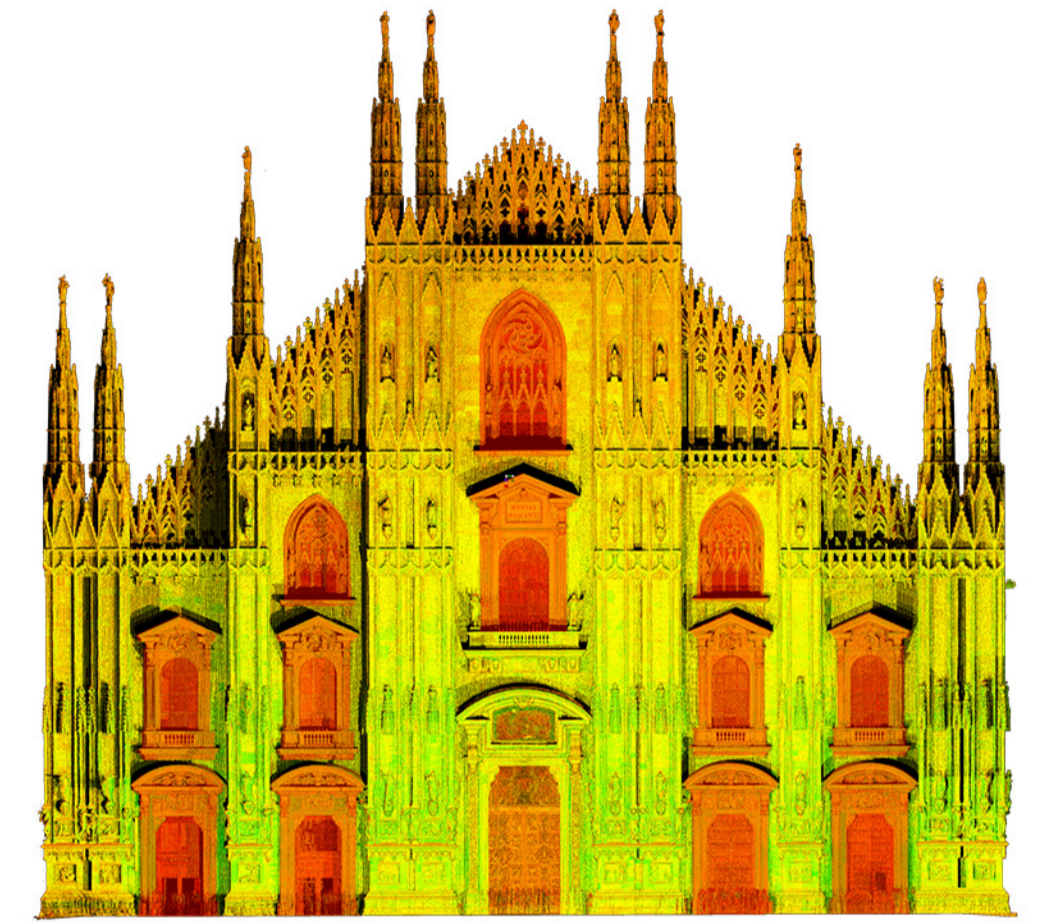
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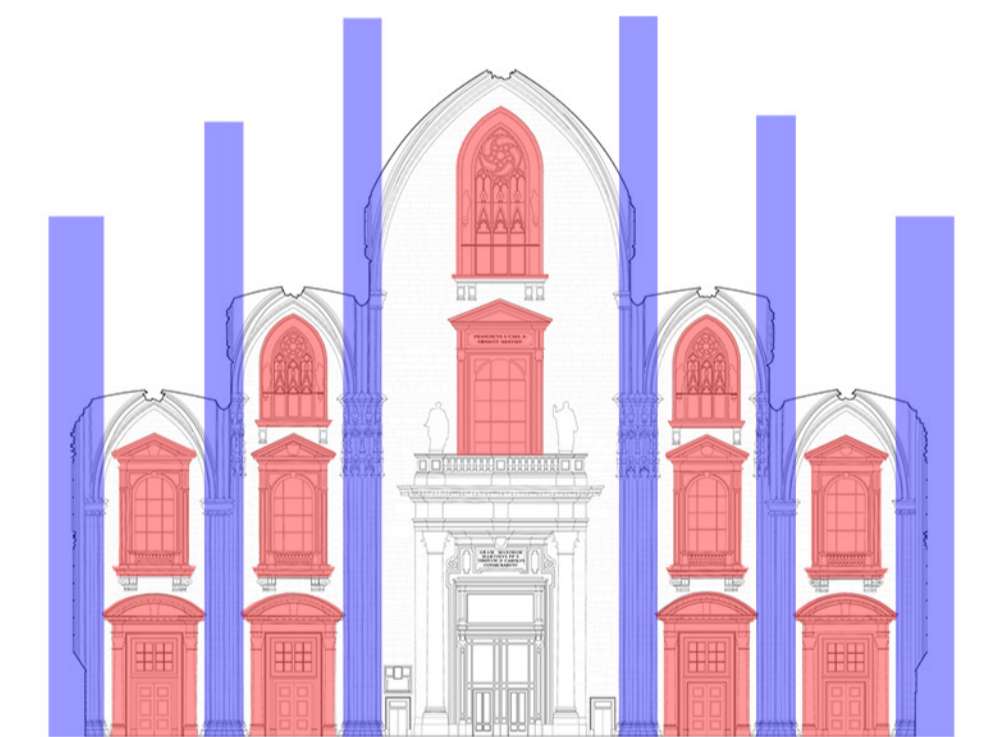
SECTION I-I, INTERNAL FACADE, 1:100



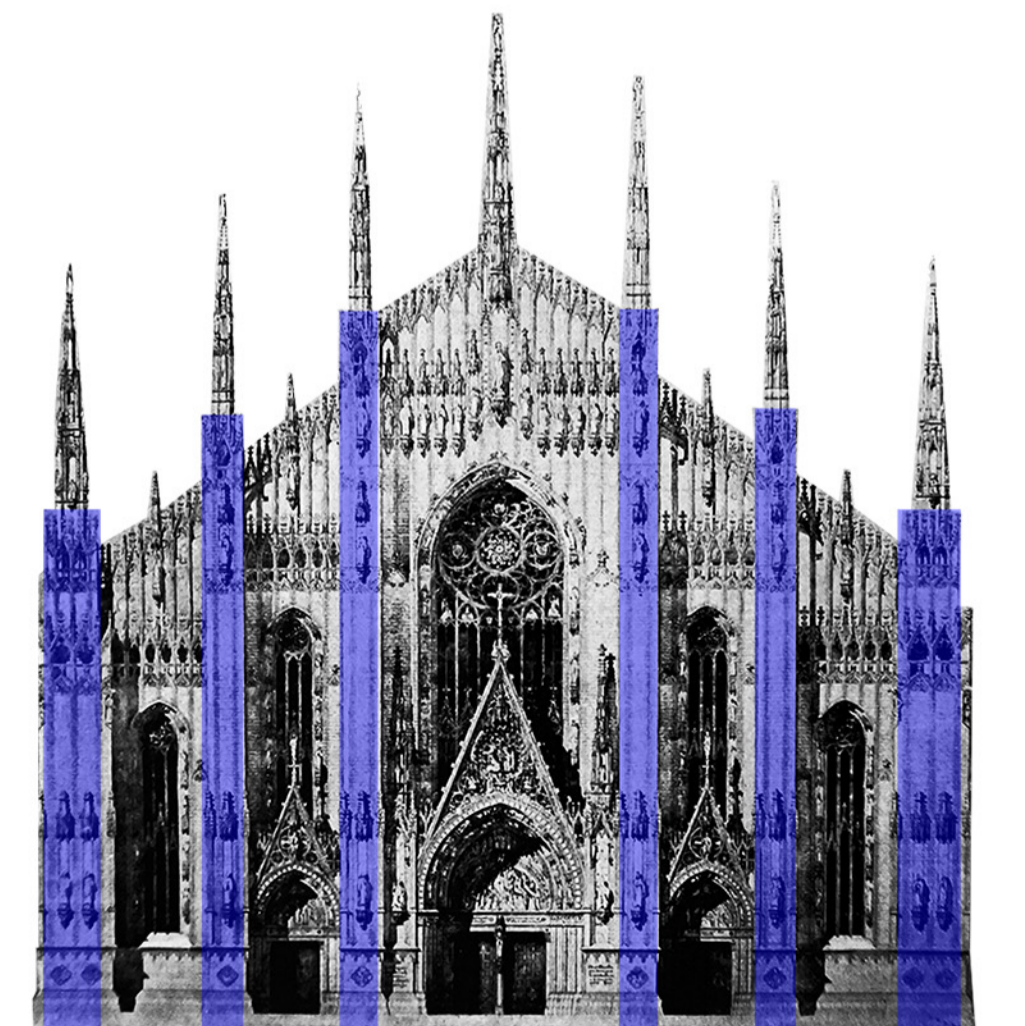
Hand Drawing of the Facade (Inaccurate)



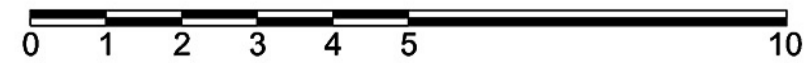
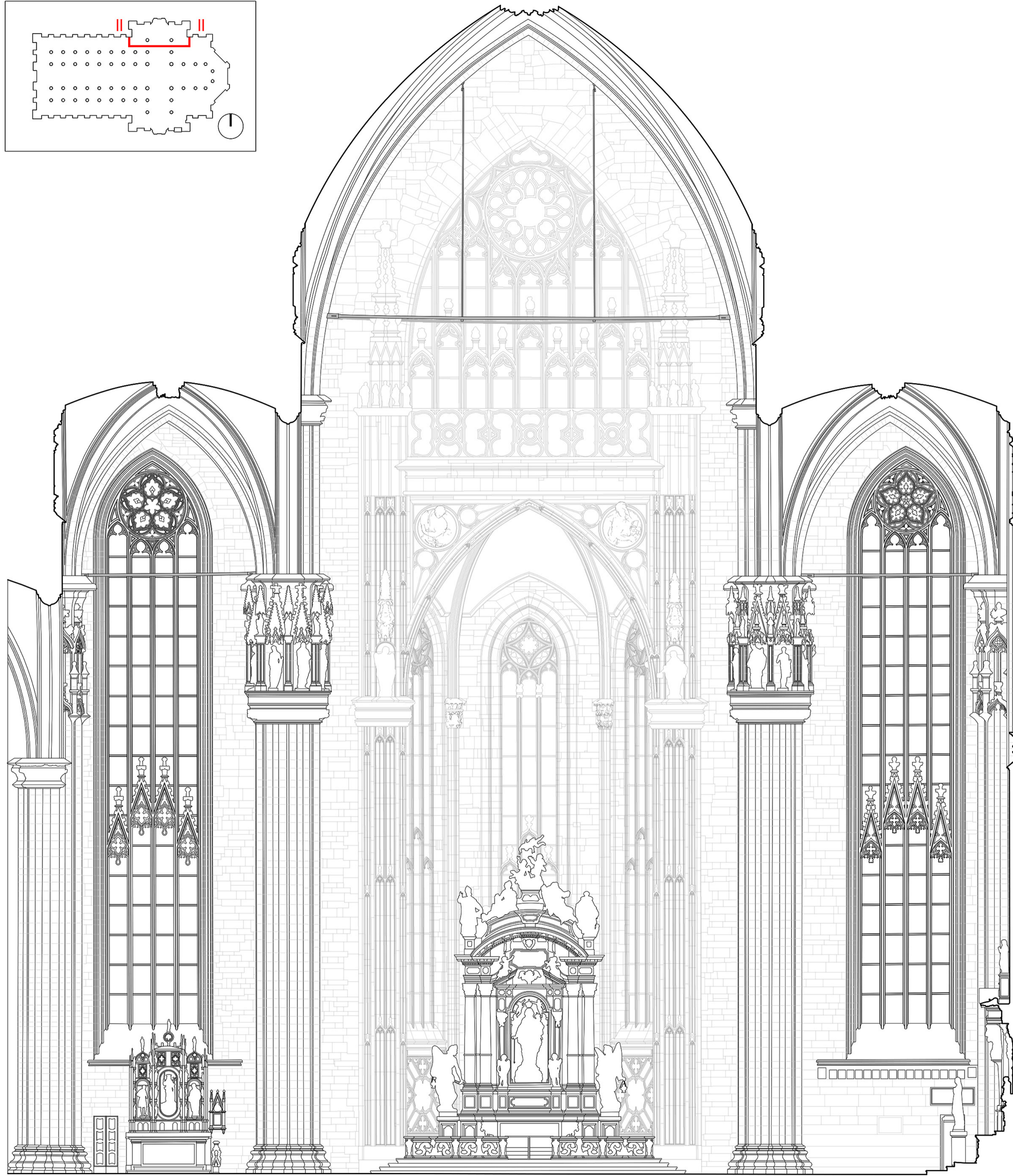
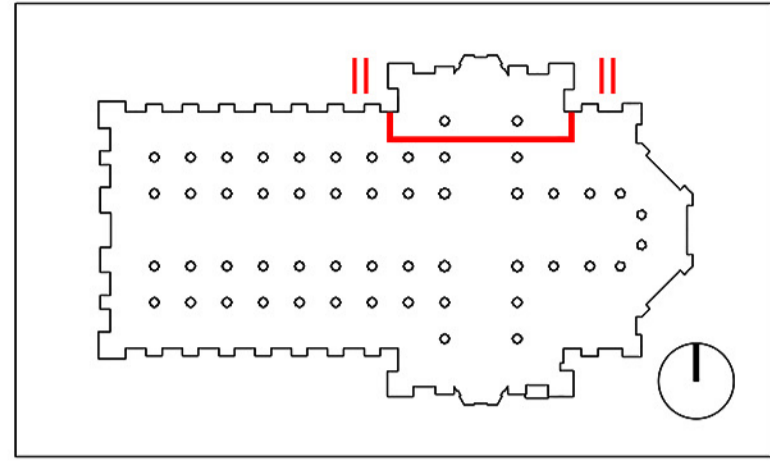
Point Cloud of the Facade



Drawing of the Internal Facade



Giuseppe Brentano's Proposal for the facade, Contest Winner



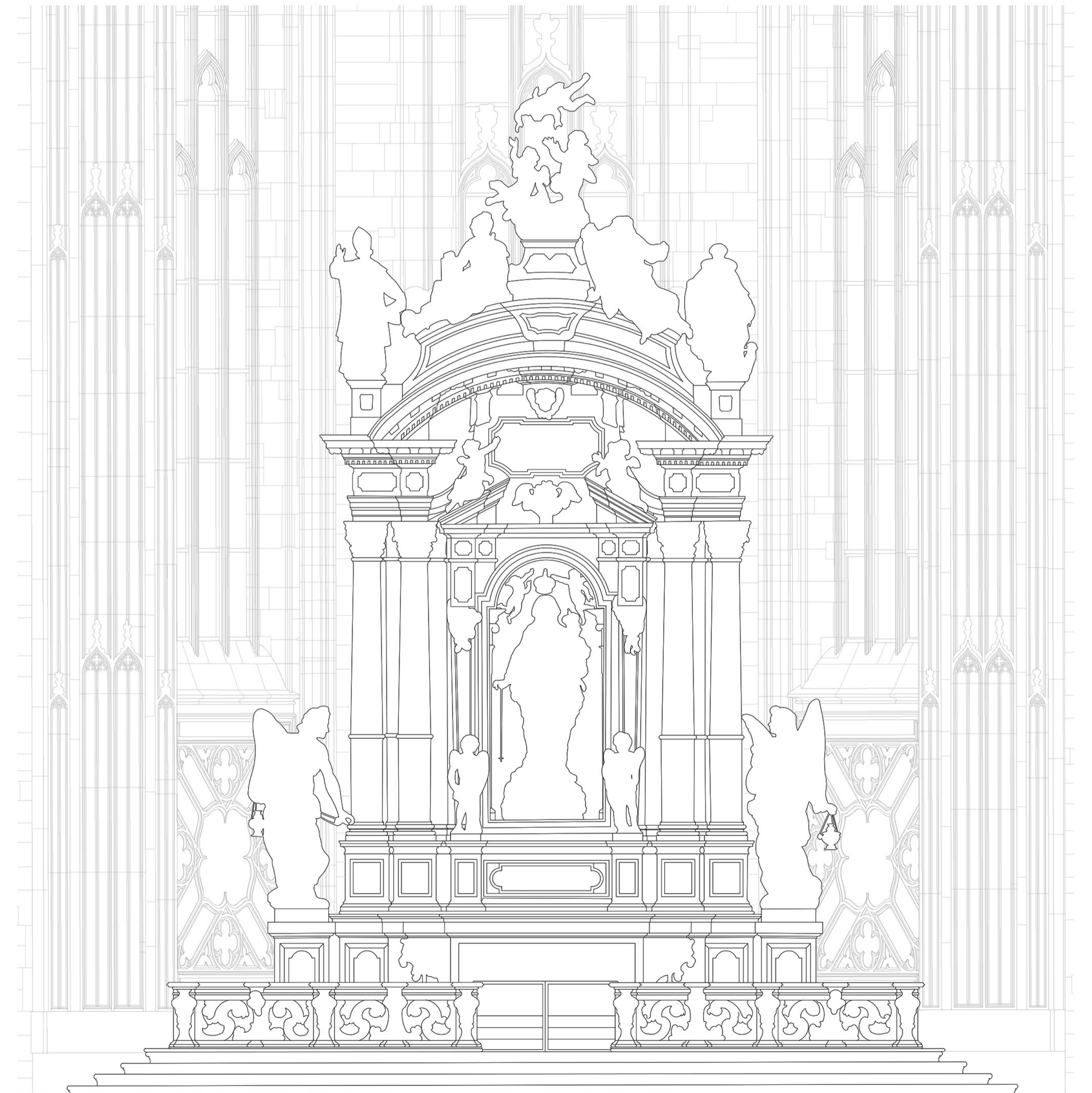
SECTION II-II, CHAPEL OF MADONNA DELL'ALBERO, 1:100



DETAIL OF THE LEFT WINDOW, 1:30



DETAIL OF THE RIGHT WINDOW, 1:30

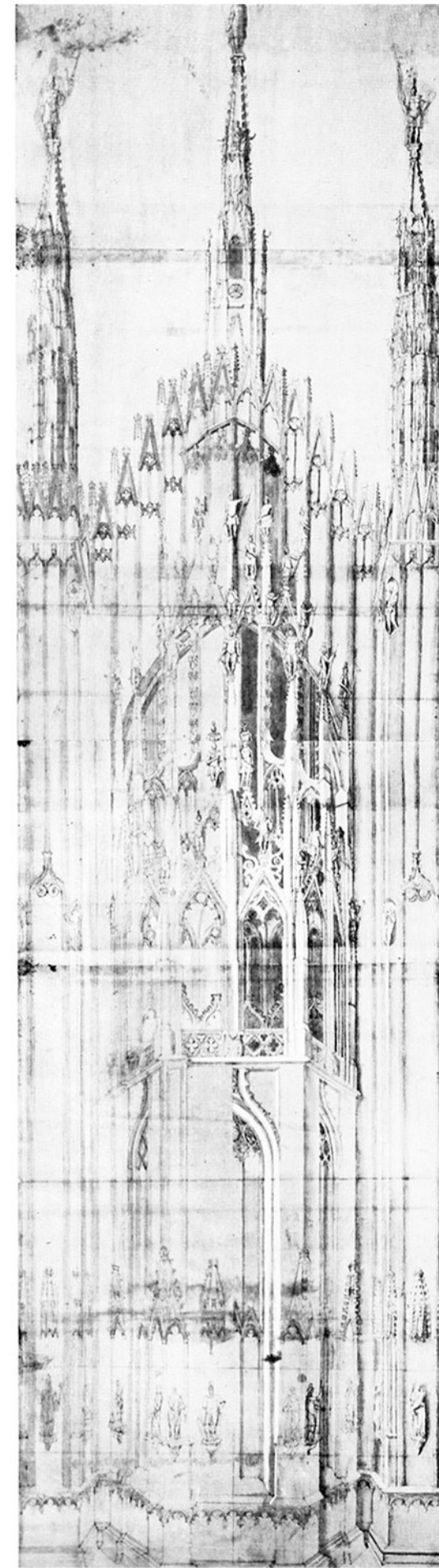


DETAIL OF ALTAR OF MADONNA DELL'ALBERO, 1:40

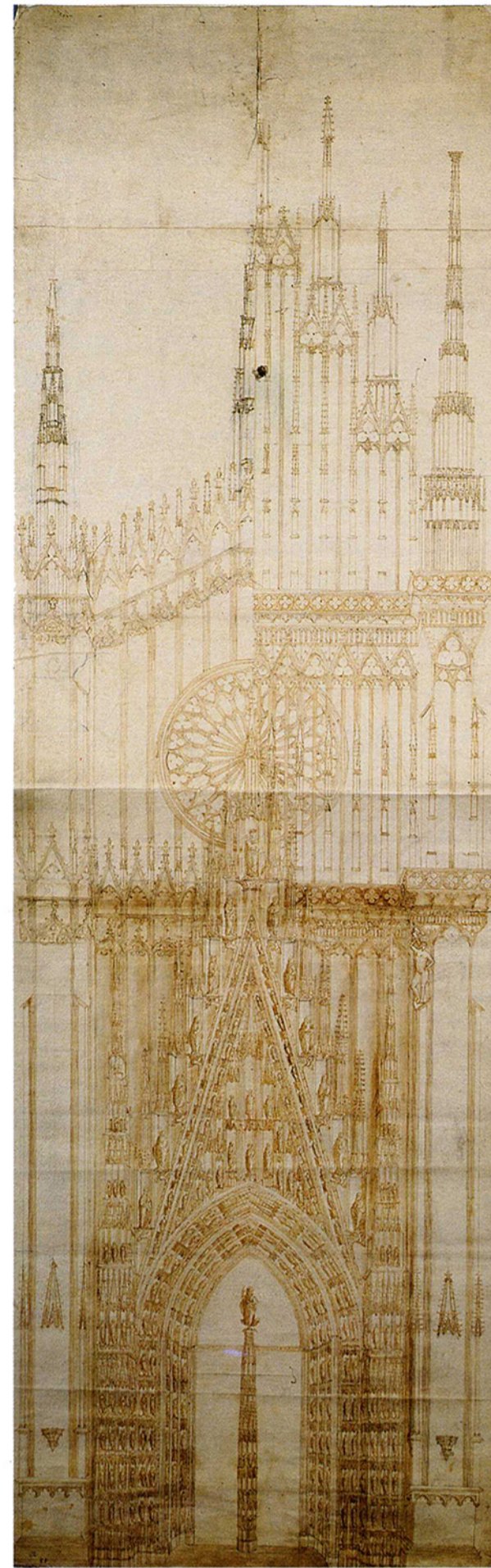
PROJECT FOR THE FACADE OF NORTHERN TRANSEPT



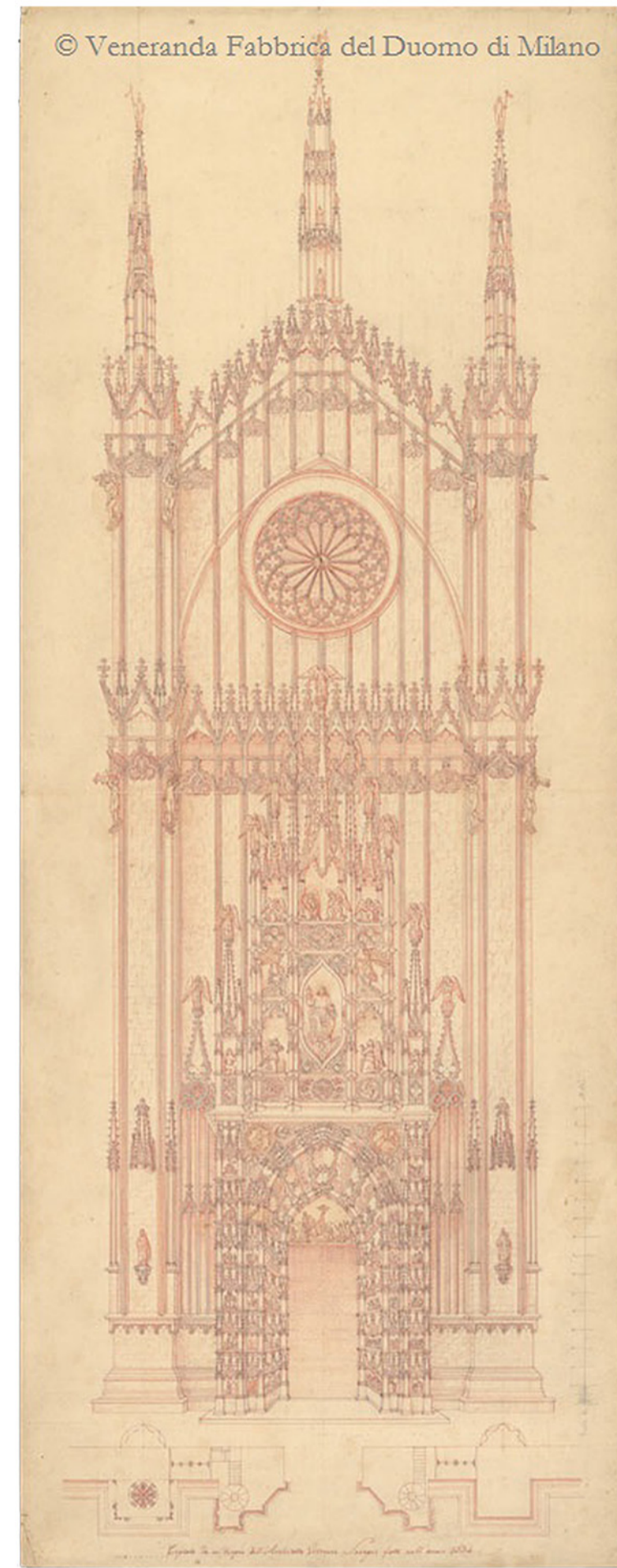
Cristoforo Lombardo?
1519-1537
(AVFDMi)



Anonymous
1612-1614?
(BAMi)



Anonymous
1503-1537
(BAMi)

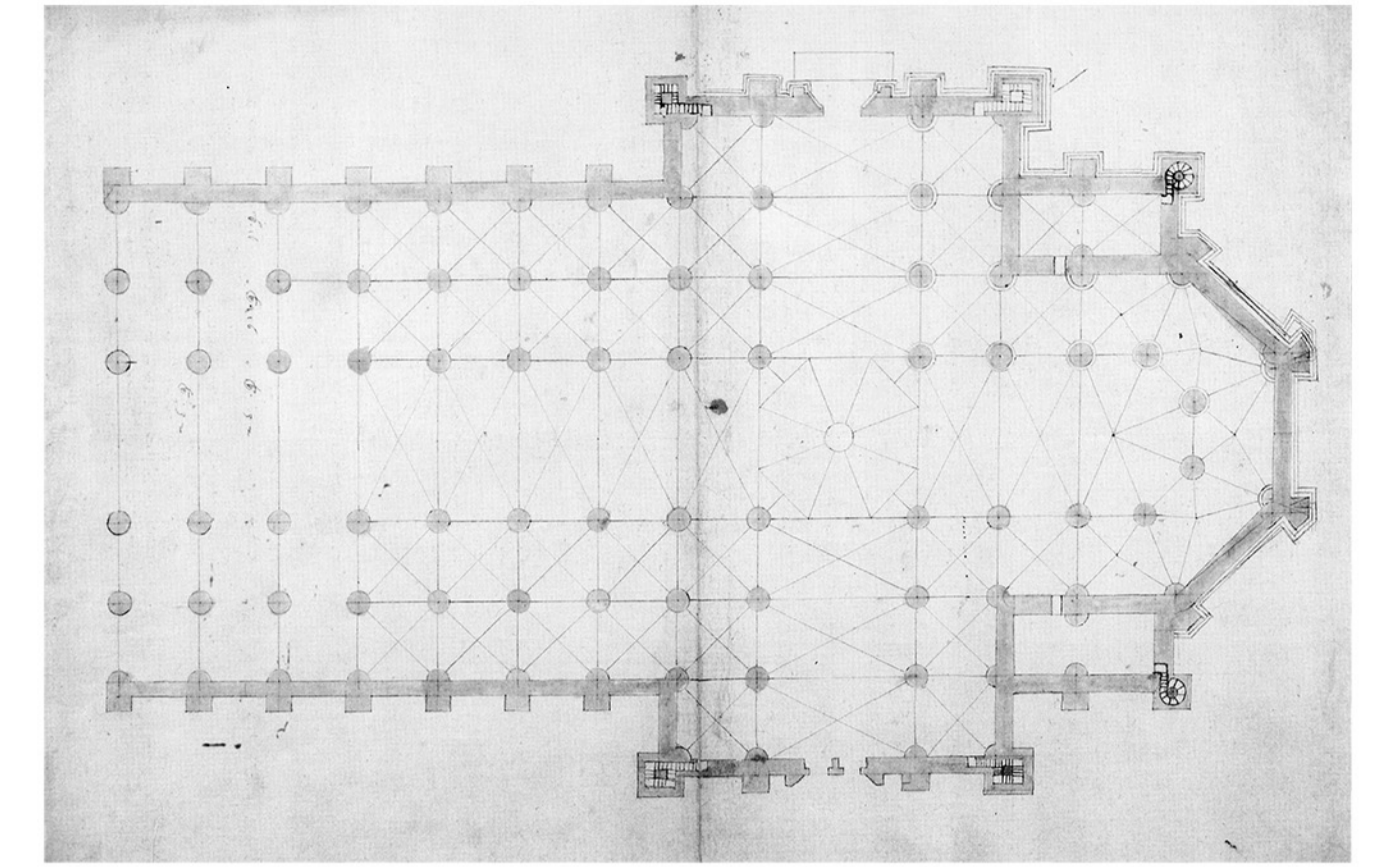


Luca Beltrami ?
Copy of a anonymous project (from 1534)
1900-1925
(AVFDMi)

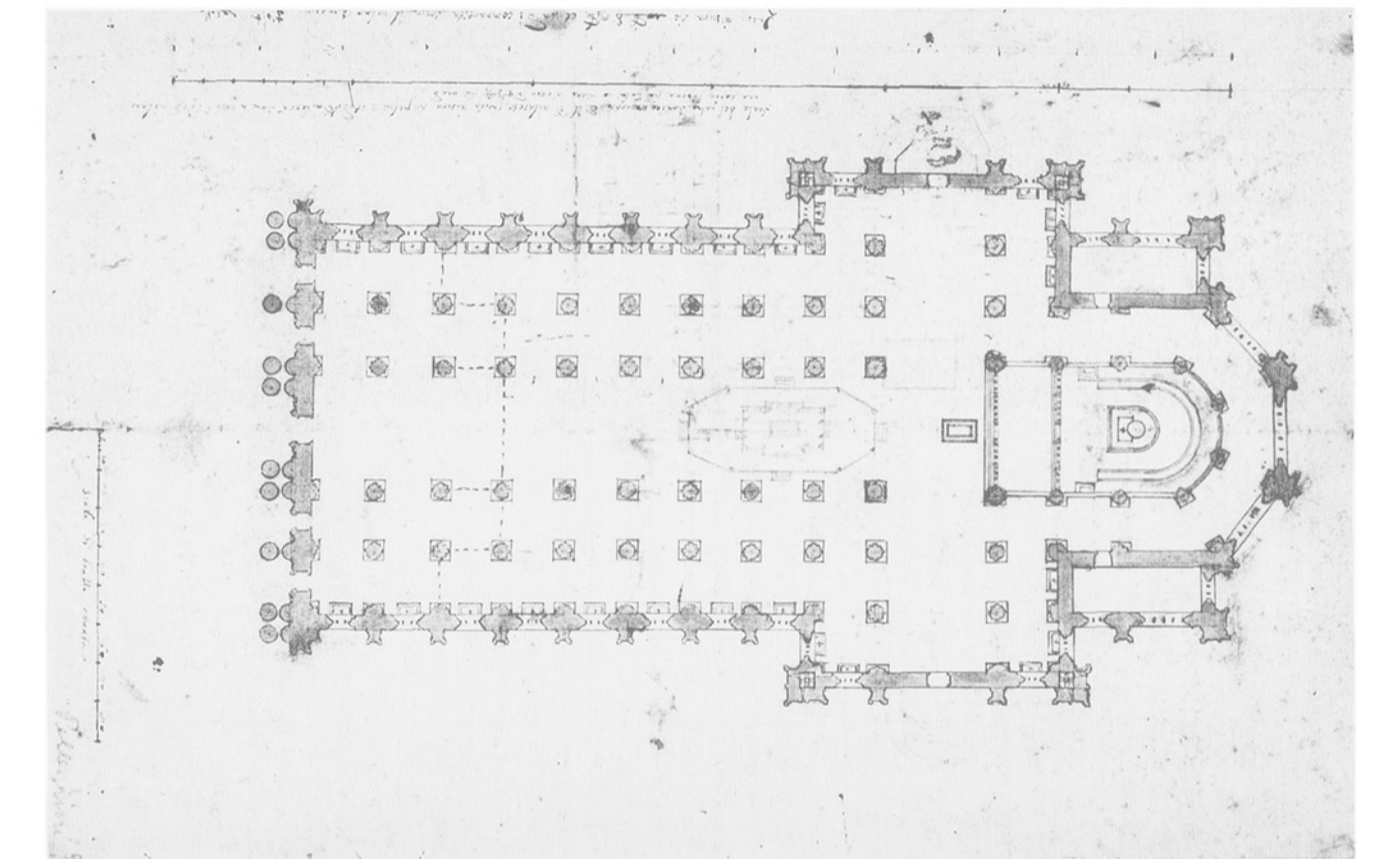


Giovanni Paolo Bisnati
Internal facade of the transept
1614-1625
(ASCMi)

HISTORICAL PLAN OF DUOMO

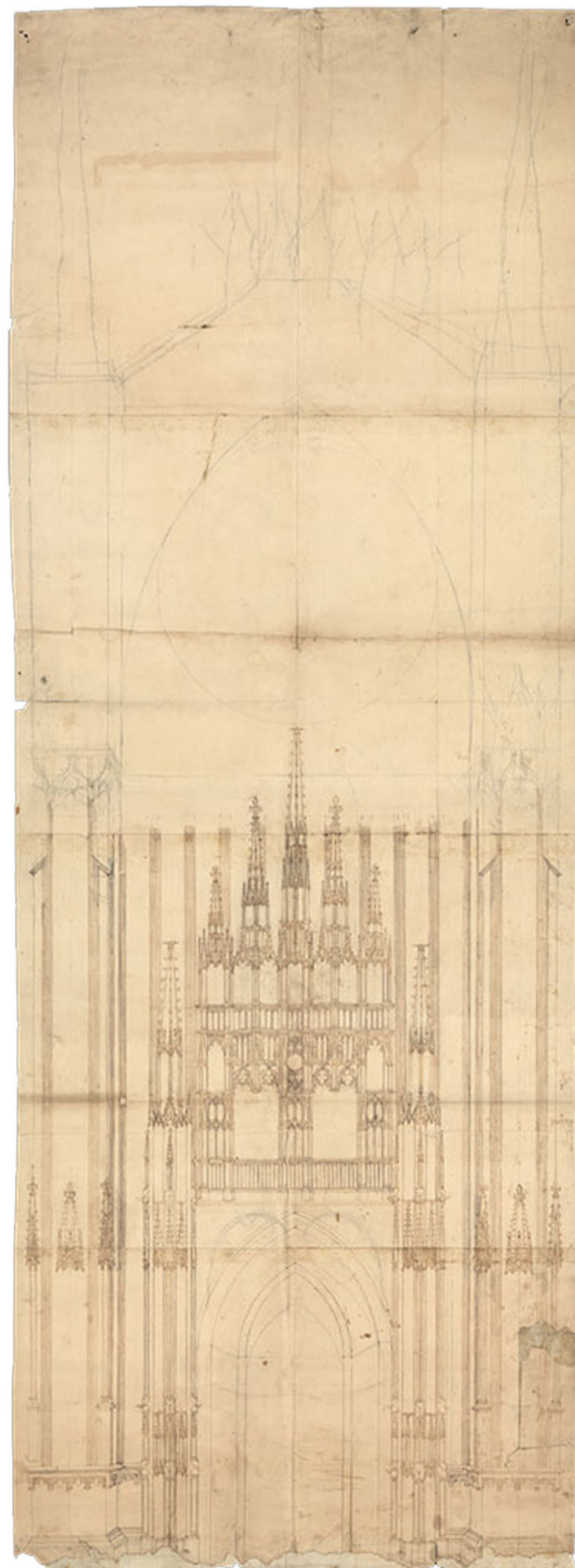


Anonymous
1567-1585
(ASD)

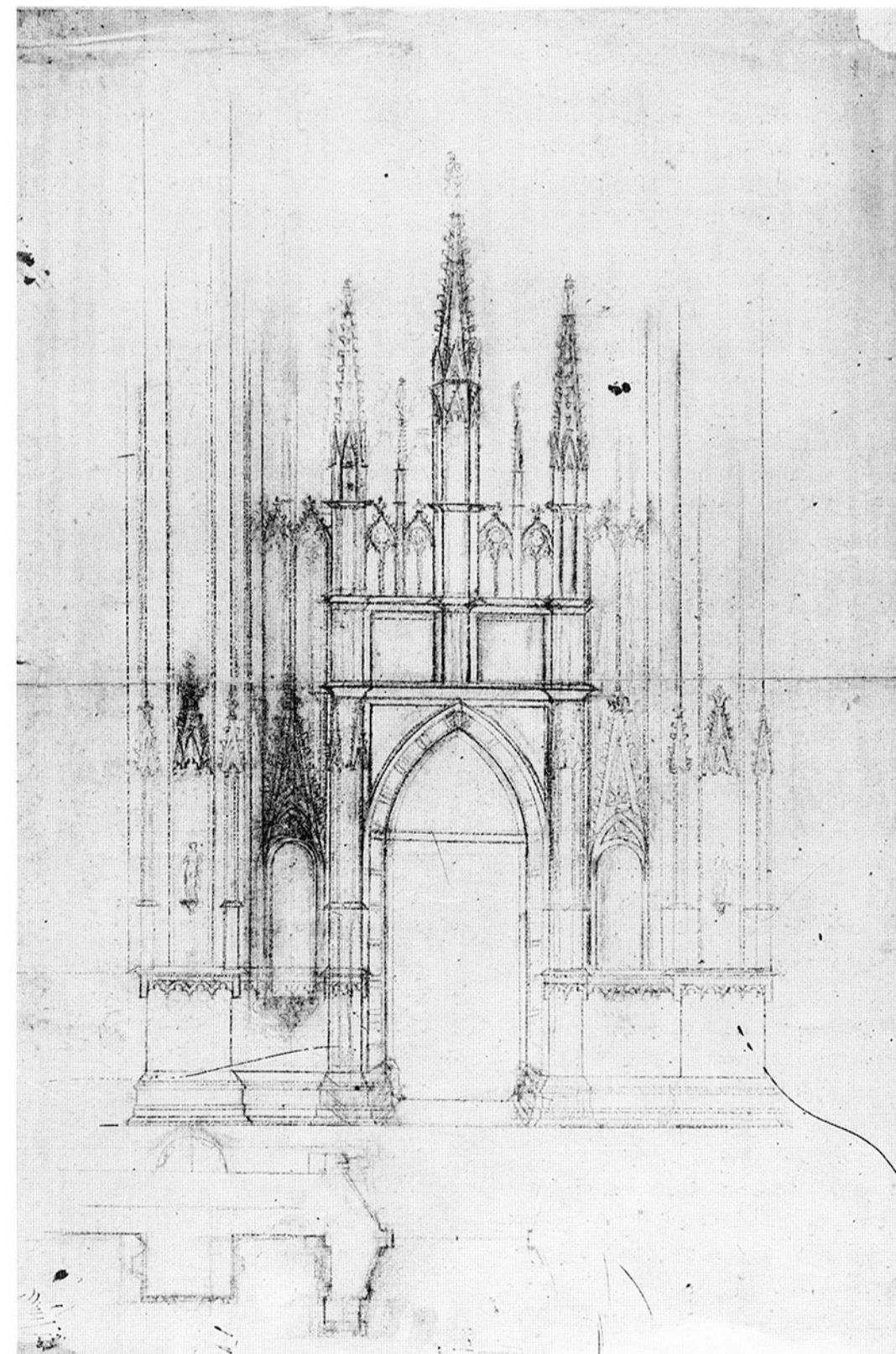


Anonymous
(ASD)

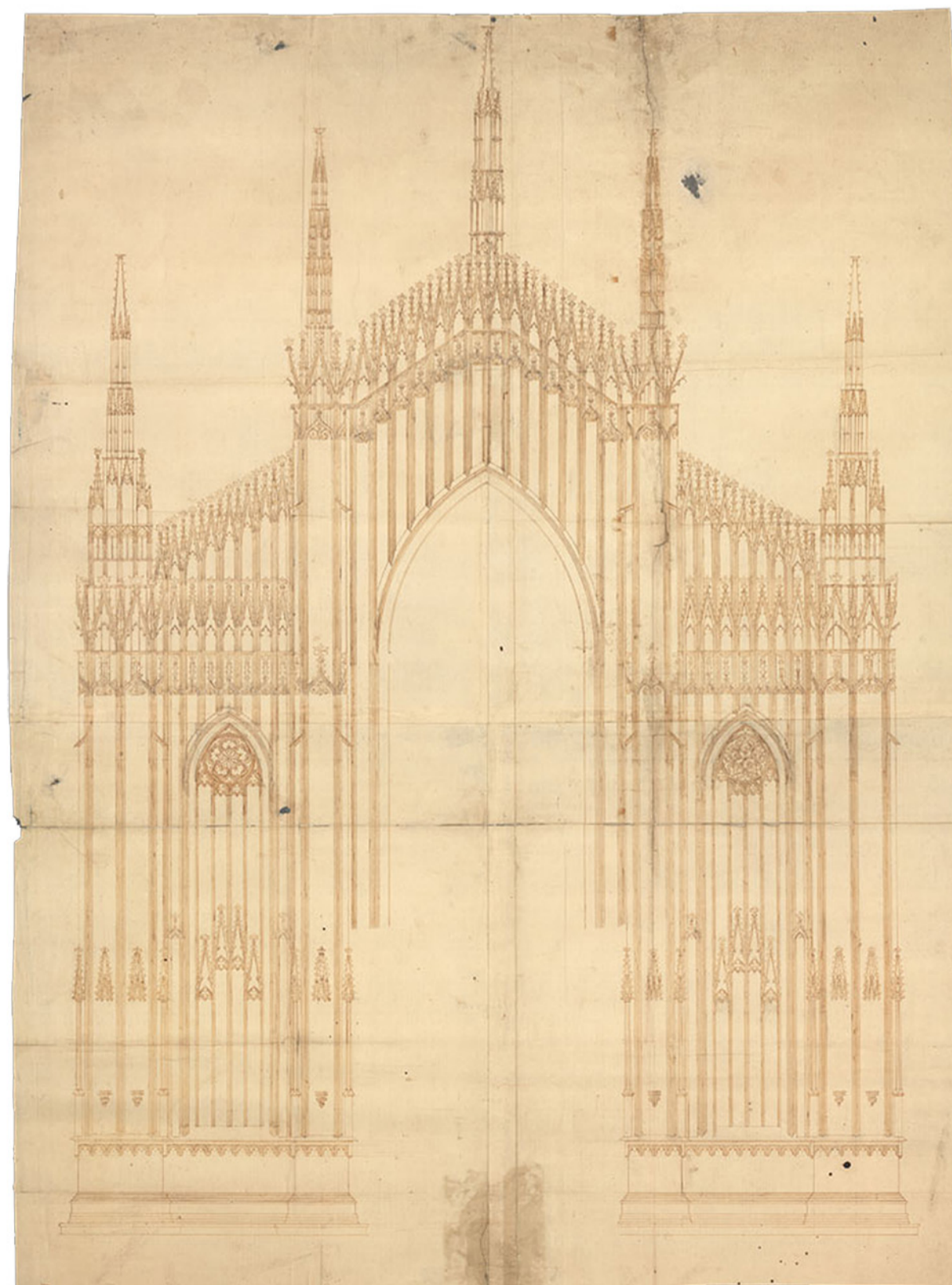
PROJECT FOR THE PLAN OF NORTHERN TRANSEPT



Vincenzo Seregni ?
1535-1540
(ASCMi)



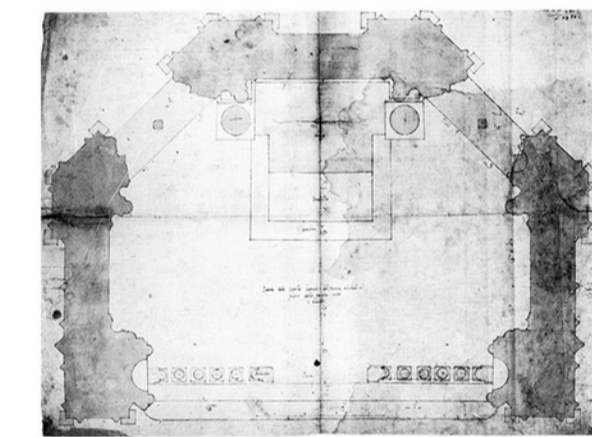
Cristoforo Lombardo ?
?
(ASCMi)



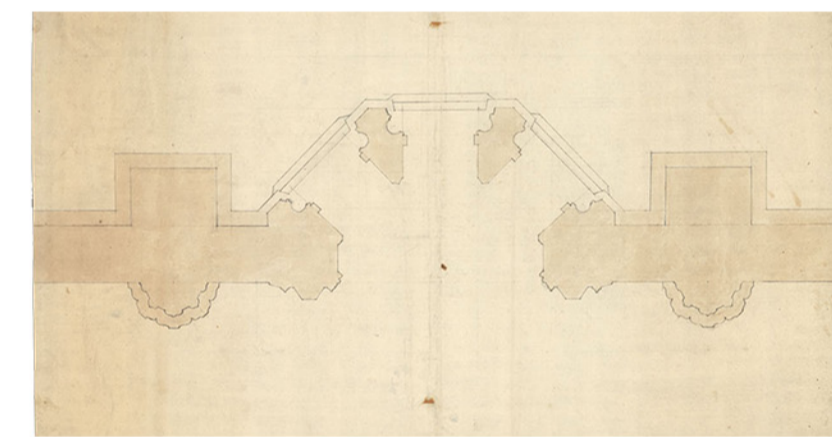
Vincenzo Seregni
1534-1567
(ASCMi)



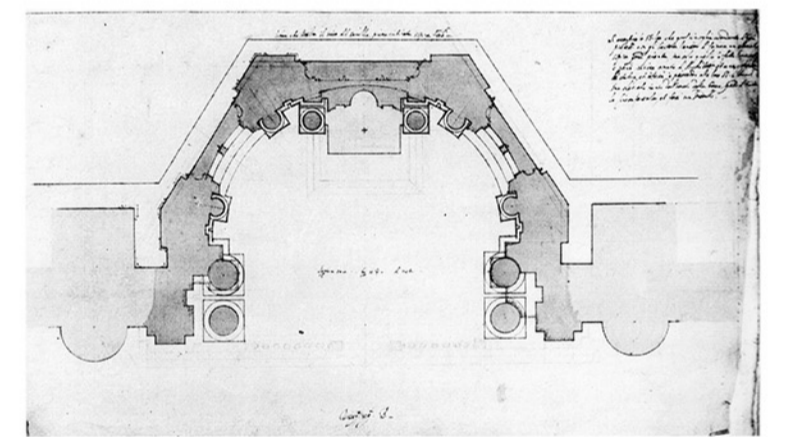
Vincenzo Seregni ?
1534/35-1567
(ASCMi)



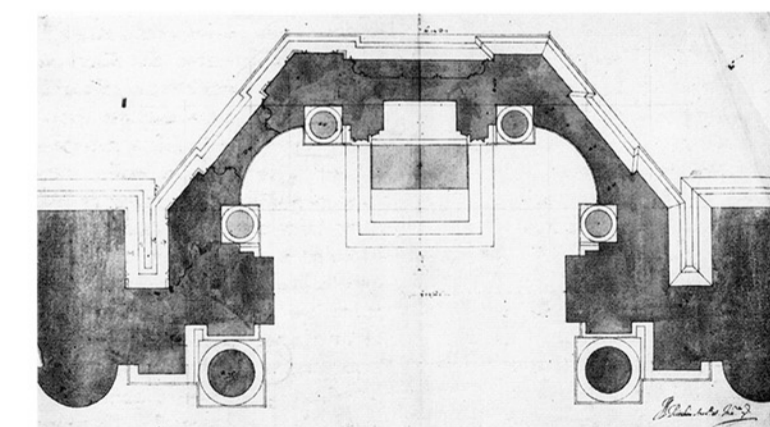
Pellegrino Tibaldi ?
1576-1600
(ASCMi)



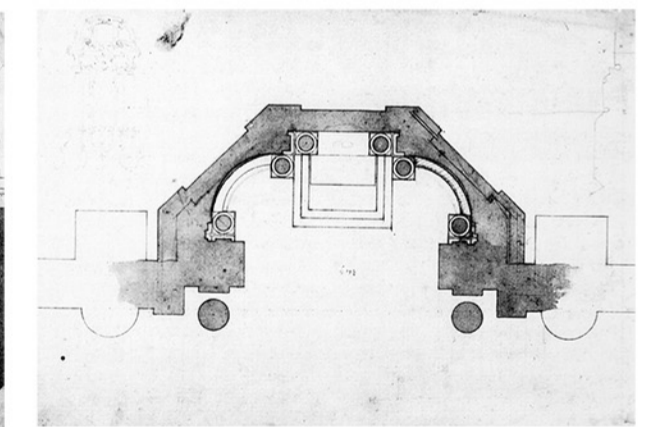
Anonymous
1600-1625 ?
(ASCMi)



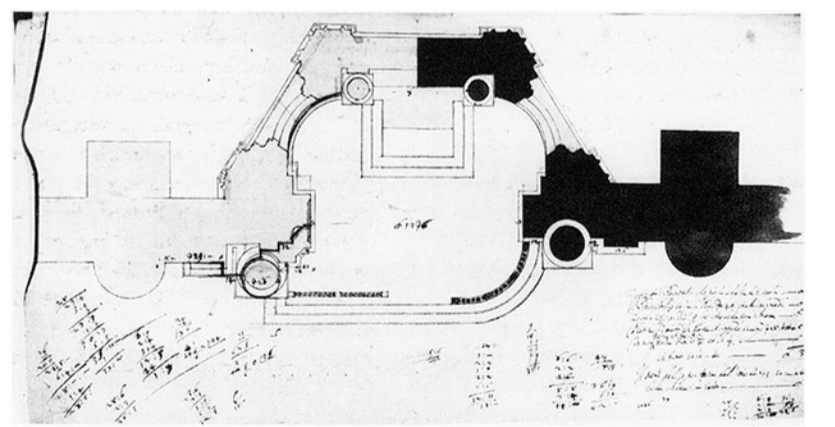
Francesco Maria Ricchino
1612-1614
(ASCMi)



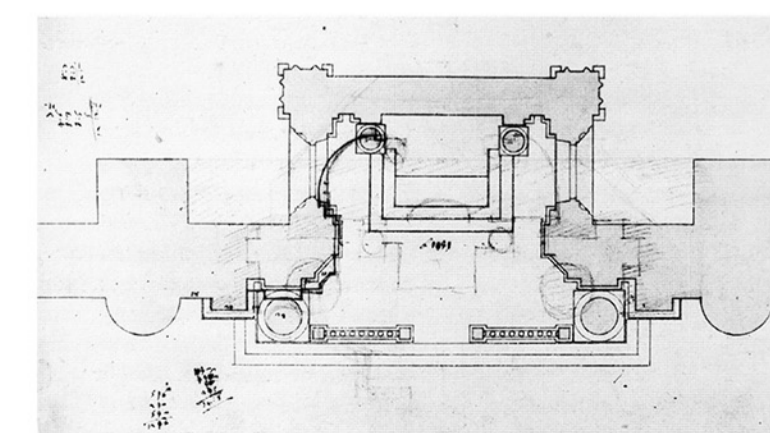
Francesco Maria Ricchino
1612-1614
(ASCMi)



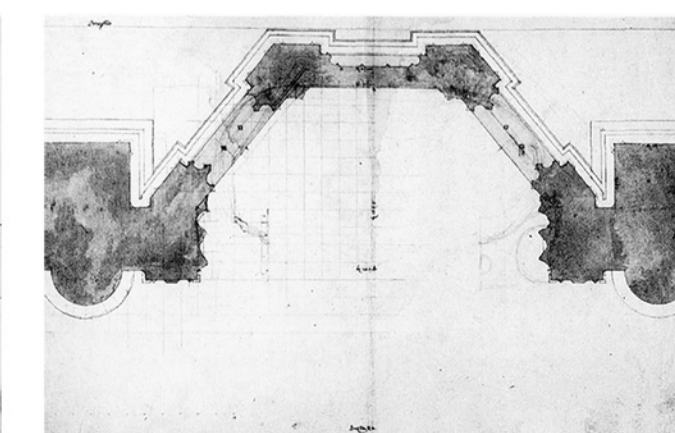
Francesco Maria Ricchino
1612-1614
(ASCMi)



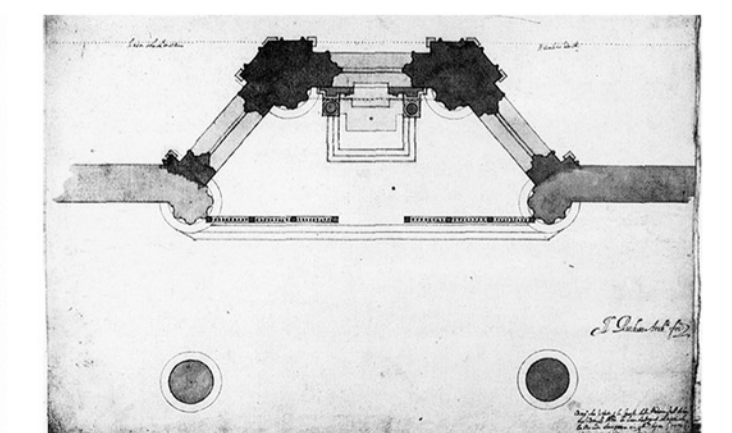
Francesco Maria Ricchino
1612-1614
(ASCMi)



Francesco Maria Ricchino
1612-1614
(ASCMi)



Francesco Maria Ricchino
1612-1614
(ASCMi)



Francesco Maria Ricchino
1612-1614
(ASCMi)

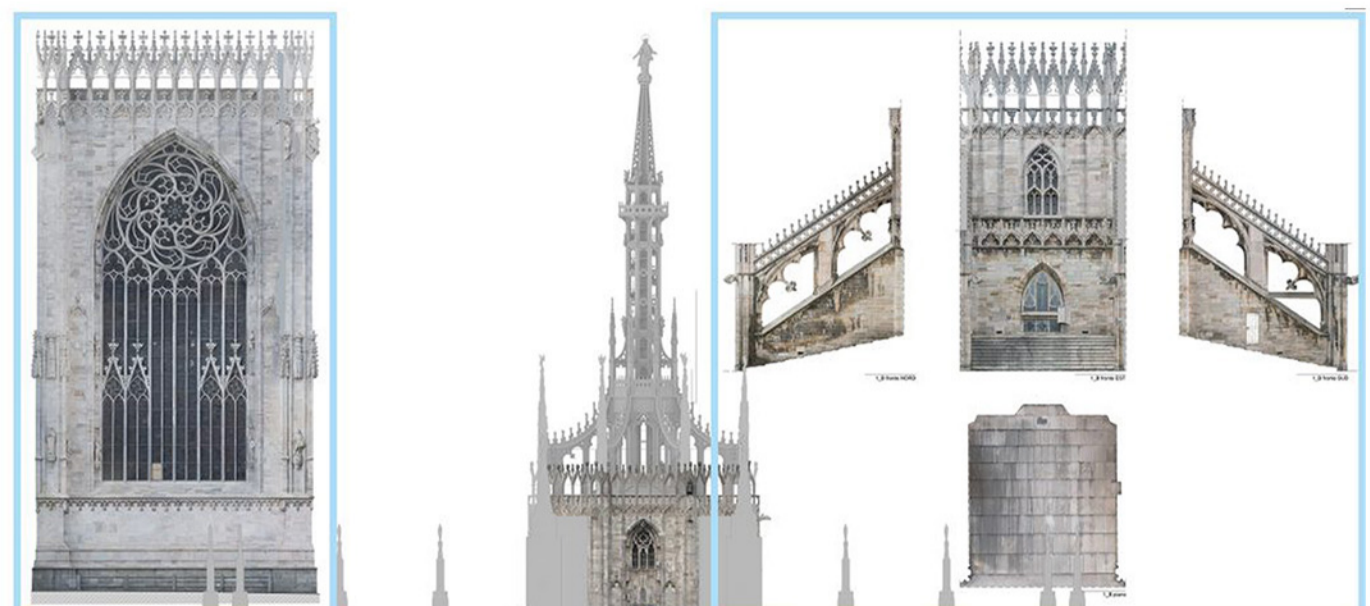
HIGH-TECH SURVEY OF 3DSG



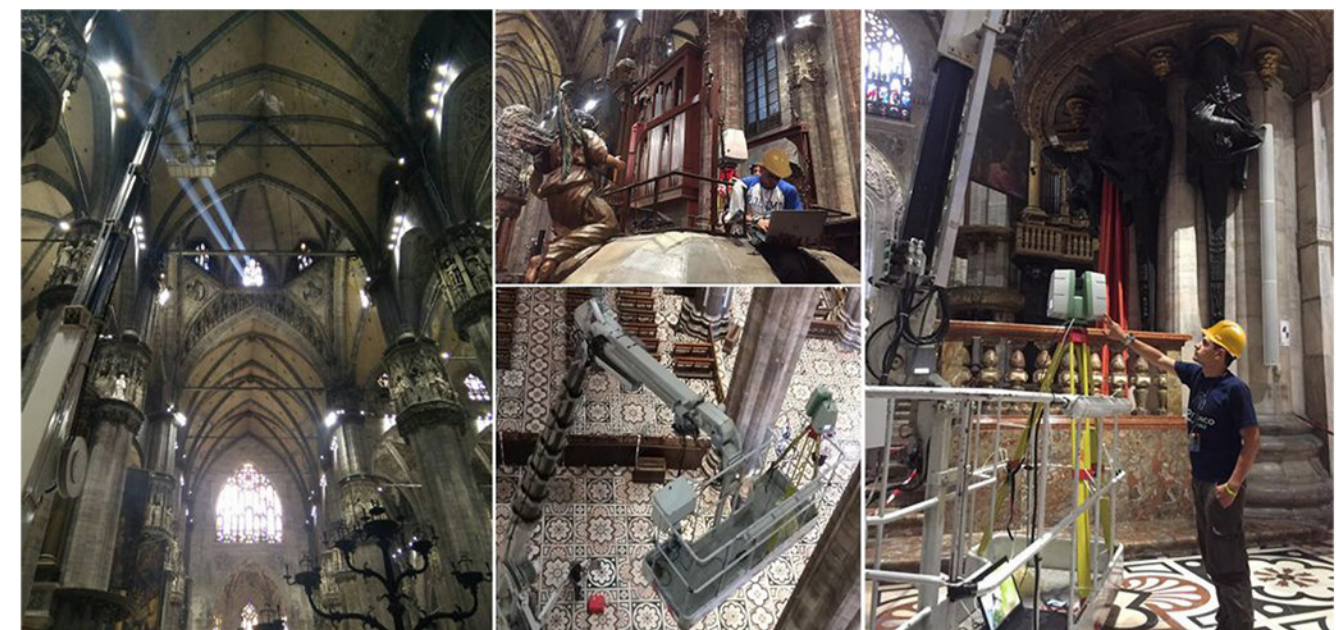
SURVEY TOOLS



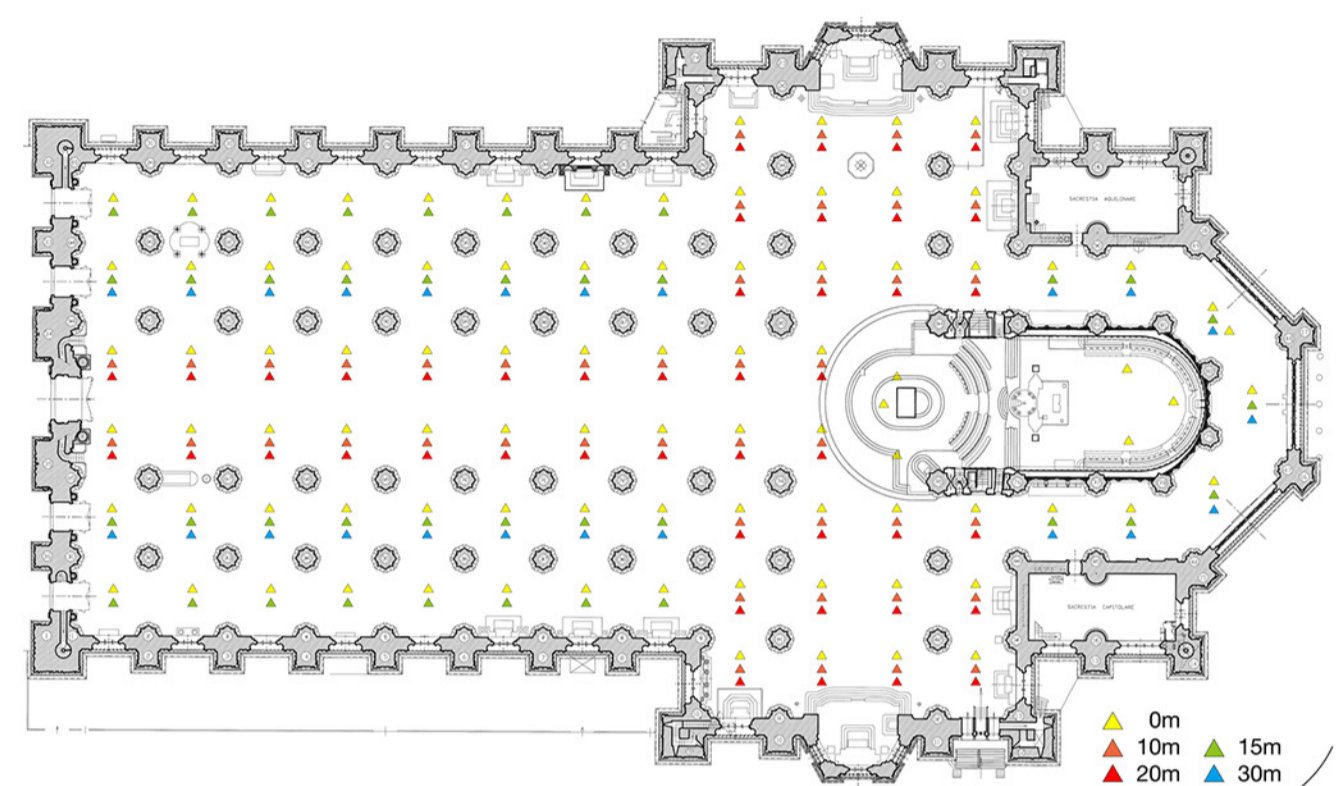
OUTDOOR SURVEY WITH PHOTOGRAMMETRY



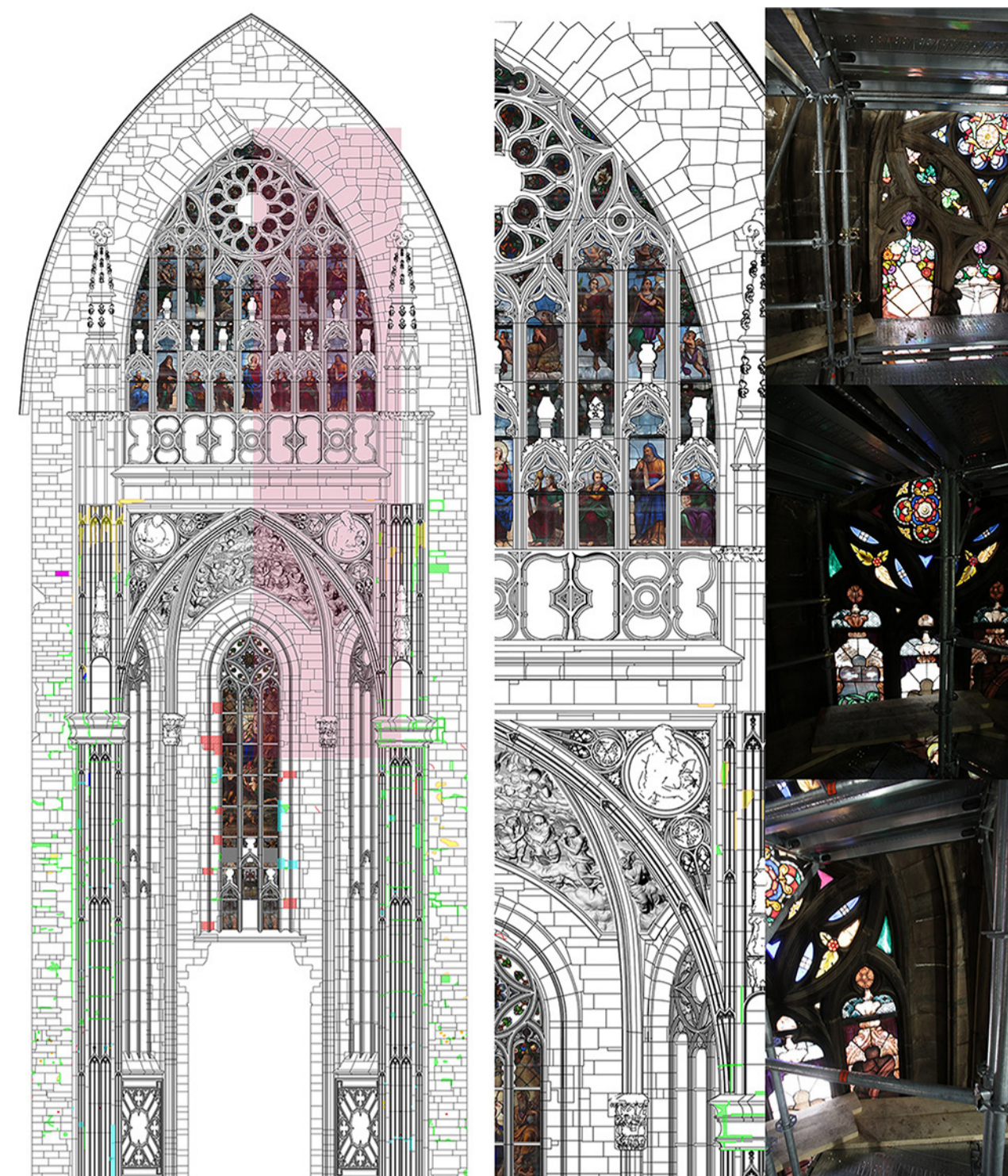
ORTHO PHOTO OF THE EASTERN FACADE



INDOOR SURVEY WITH 3D LASER SCANNING

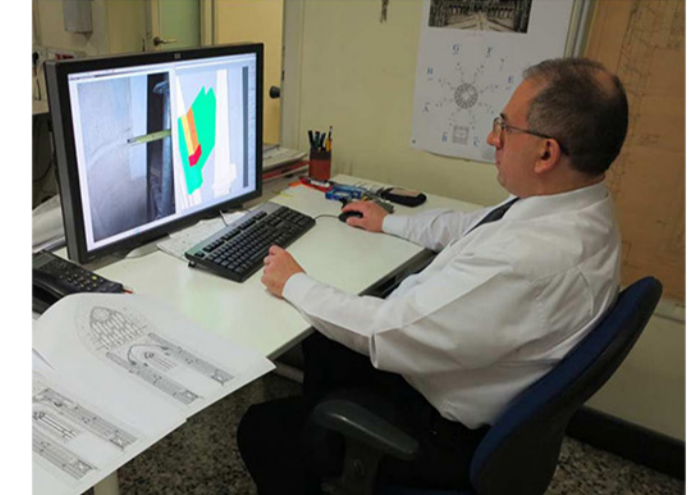
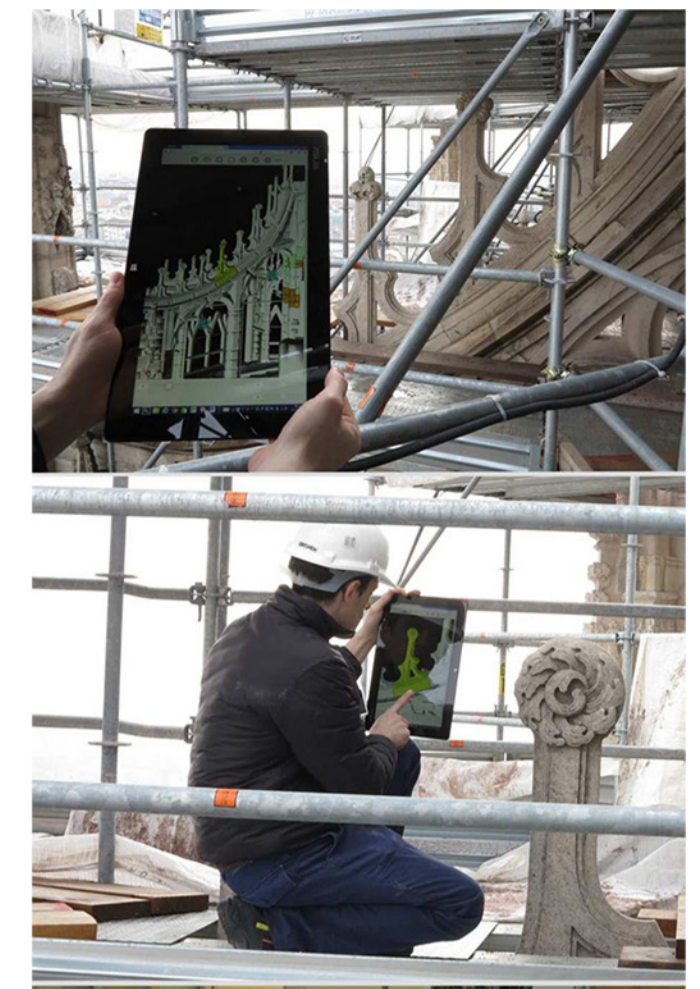


MAP OF SURVEY



SURVEY THE ALTAR OF MADONNA DELL'ALBERO

BIM3DSG SYSTEM

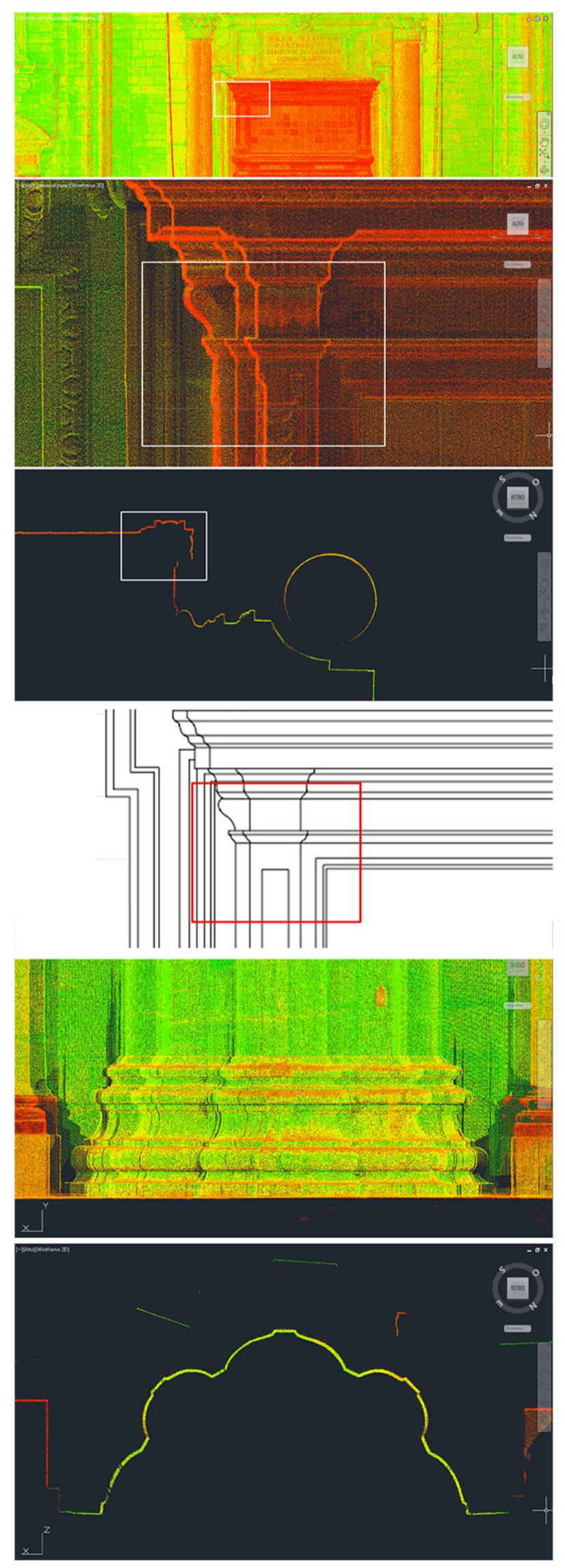
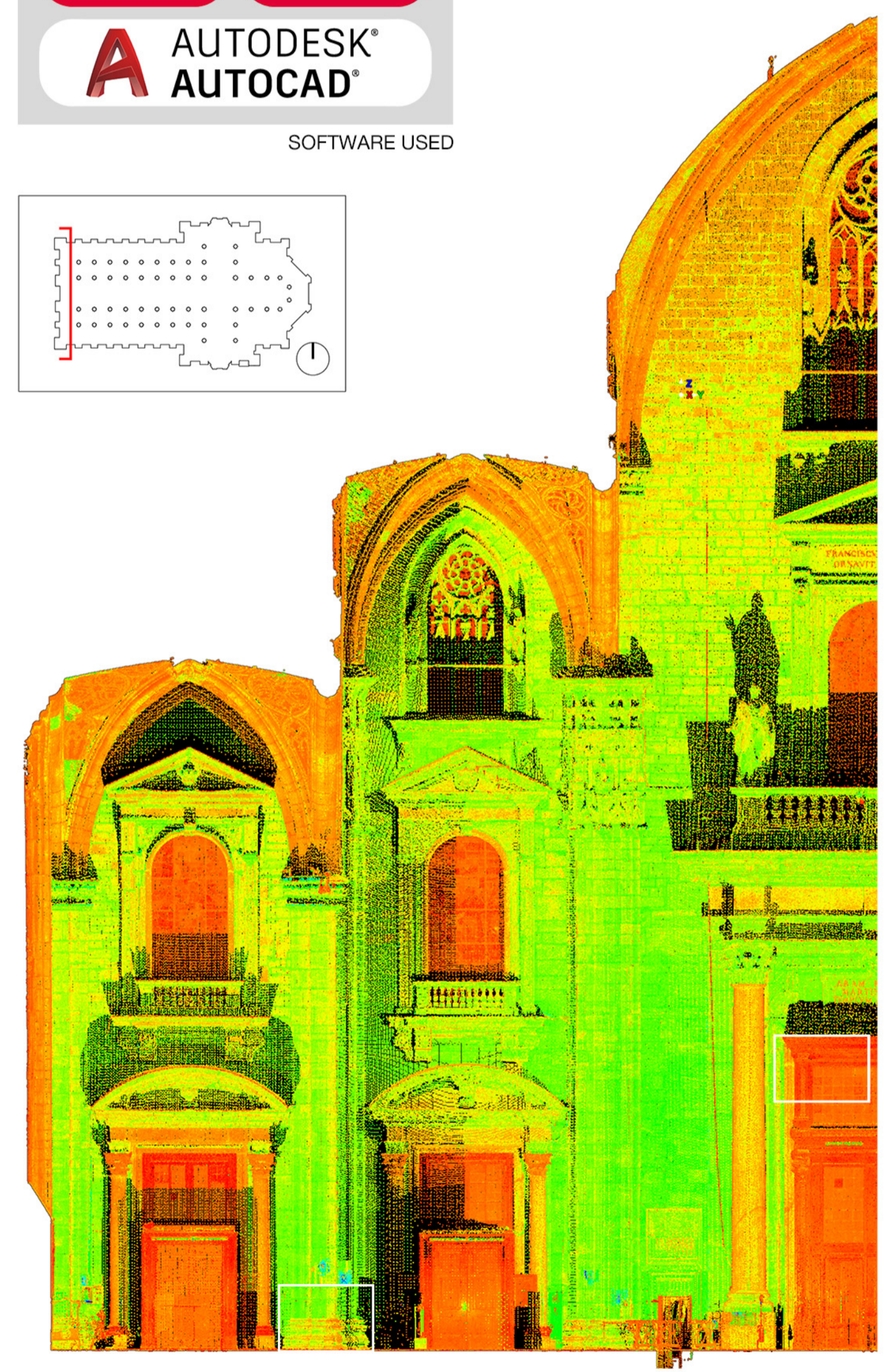
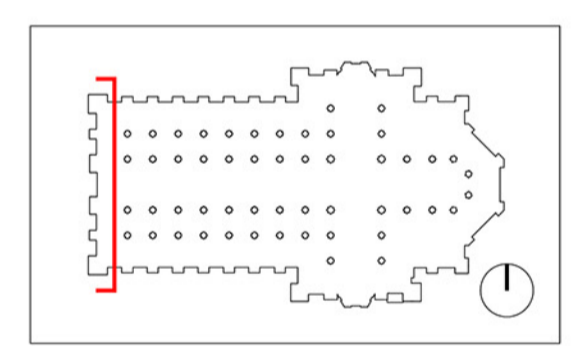


DAILY MAINTENANCE OF DUOMO

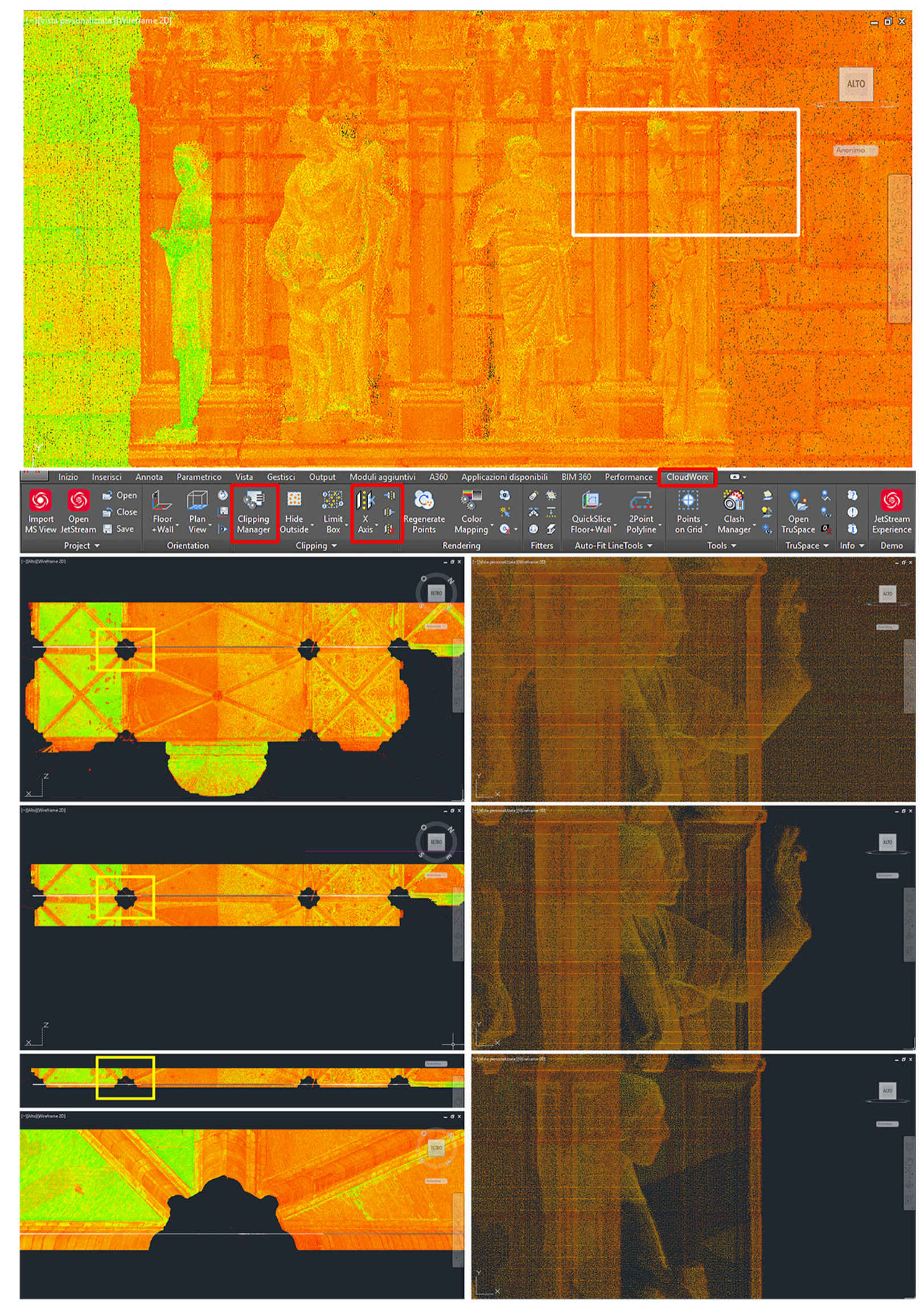
DRAWING BASED ON POINT CLOUD



SOFTWARE USED

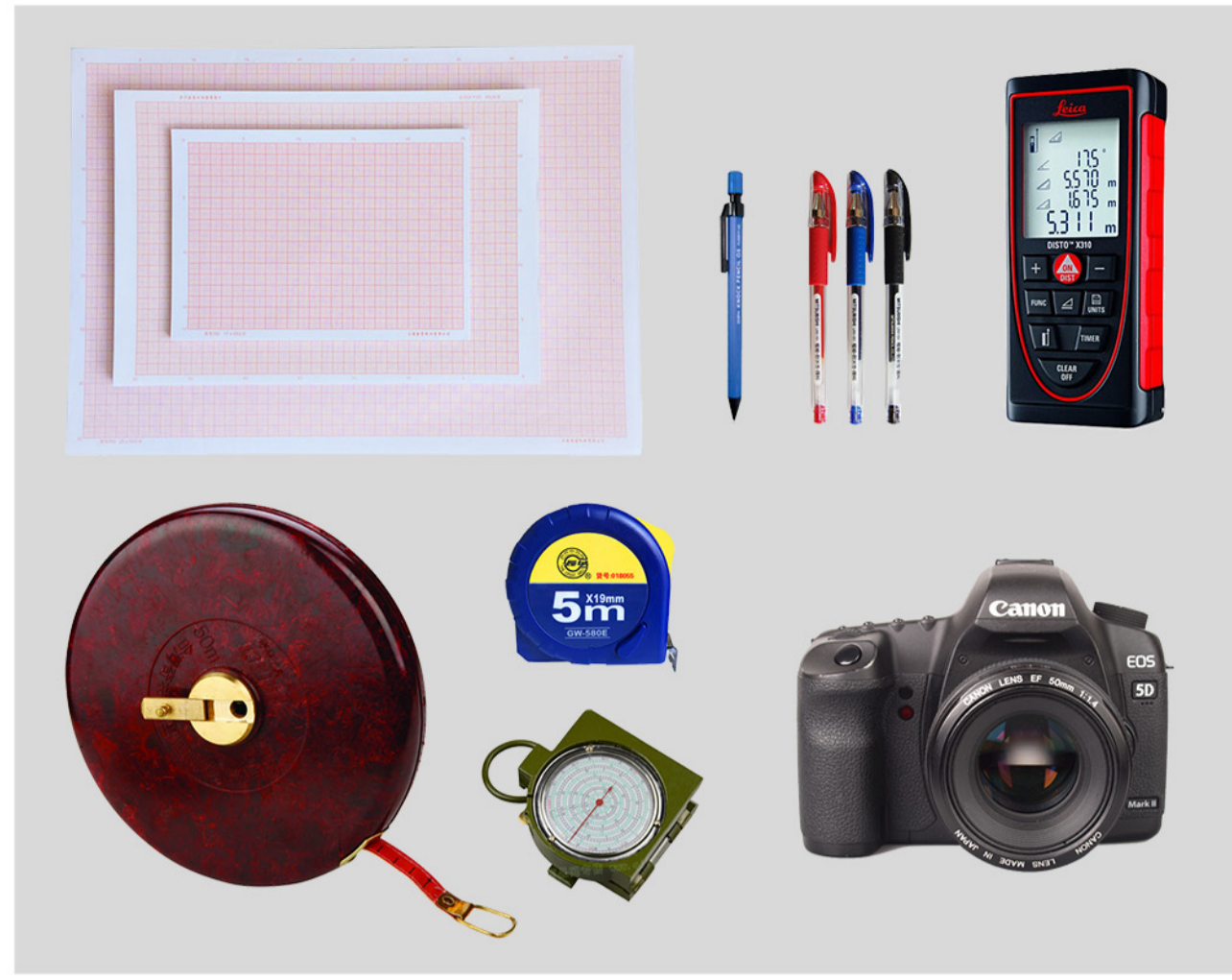


DRAWING THE INTERNAL FACADE



DRAWING THE CHAPEL OF MADONNA DELL'ALBERO

LOW-TECH SURVEY



SURVEY TOOLS



IN SITU PHOTOS
Da Fu Di, Xiang Shan, China

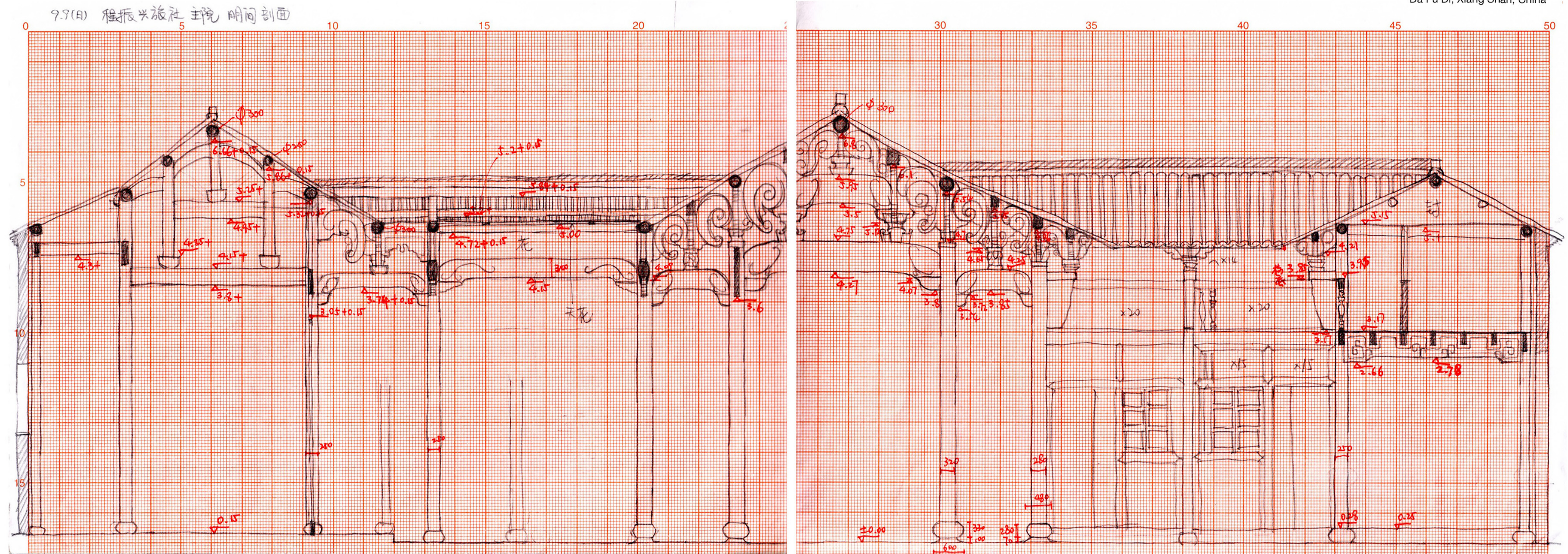
DRAWING BASED ON IN SITU SKETCH



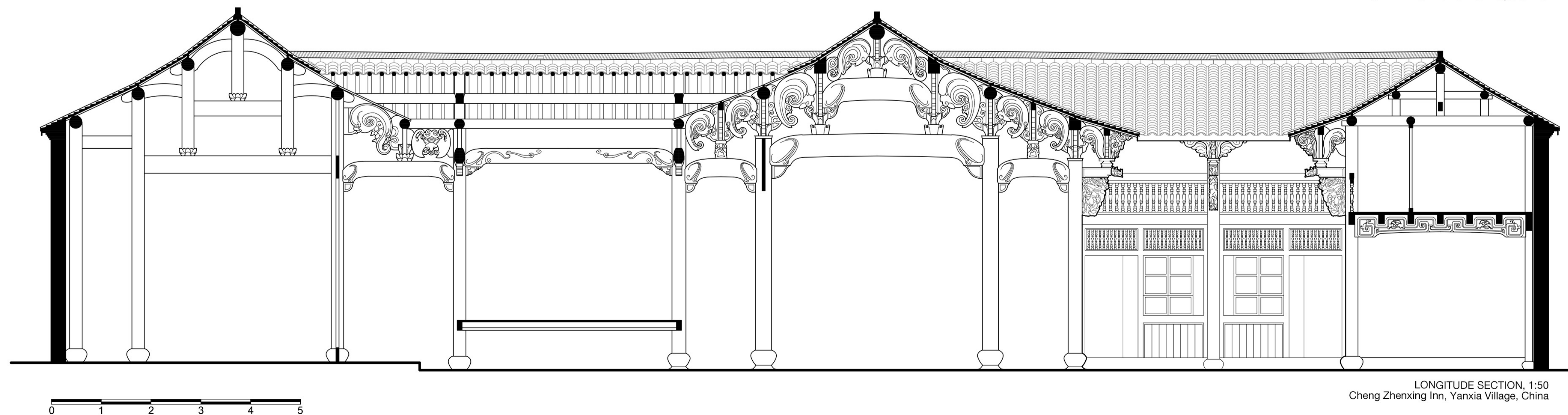
SOFTWARE USED



DETAIL OF CORBEL, 1:10
Cheng Zhenxing Inn, Yanxia Village, China



IN SITU FREEHAND SURVEY SKETCH OF LONGITUDE SECTION
Cheng Zhenxing Inn, Yanxia Village, China



LONGITUDE SECTION, 1:50
Cheng Zhenxing Inn, Yanxia Village, China