

WE ARE MONITORING HISTORY

*SISGEO INSTRUMENTS
INSTALLED FOR THE ARTISTIC
HERITAGES PROTECTION
DURING THE CONSTRUCTION
OF ROME METRO - LINE C*

ROME METRO LINE C

Rome metro Line C runs through the city from North-West (Della Vittoria district) to the eastern suburb and is extending beyond the Grande Raccordo Anulare.

Line C has a full-run of 25,6 km and 30 stations, passing through the old town centre.

The Route will be characterised by the green colour. The interchanges with the other metro lines will be San Giovanni and Ottaviano (Line A) and Colosseo (Line B).

The new Line C has been excavated under the most well-known historical buildings and artistic heritages of Rome such as the Colosseum, the Temple of Venus and Roma and the Basilica of Maxentius.

Sisgeo supplied thousands of instruments and a large number of data loggers for the monitoring of tunnels, stations, buildings and artistic heritages.



The General Contractor of the project is Metro C S.c.p.a., a group of Companies composed by Astaldi, Vianini Lavori, Ansaldo STS, Cooperativa Muratori e Braccianti di Carpi and Consorzio Cooperativa Costruzioni (www.metrospa.it).



All the instruments and dataloggers are installed and managed by IMG S.r.l. (www.img-srl.com/)



View from Fori Imperiali street with Maxentius Basilica on the right and Colosseum in the front



Courtesy of Metro C S.c.p.a.

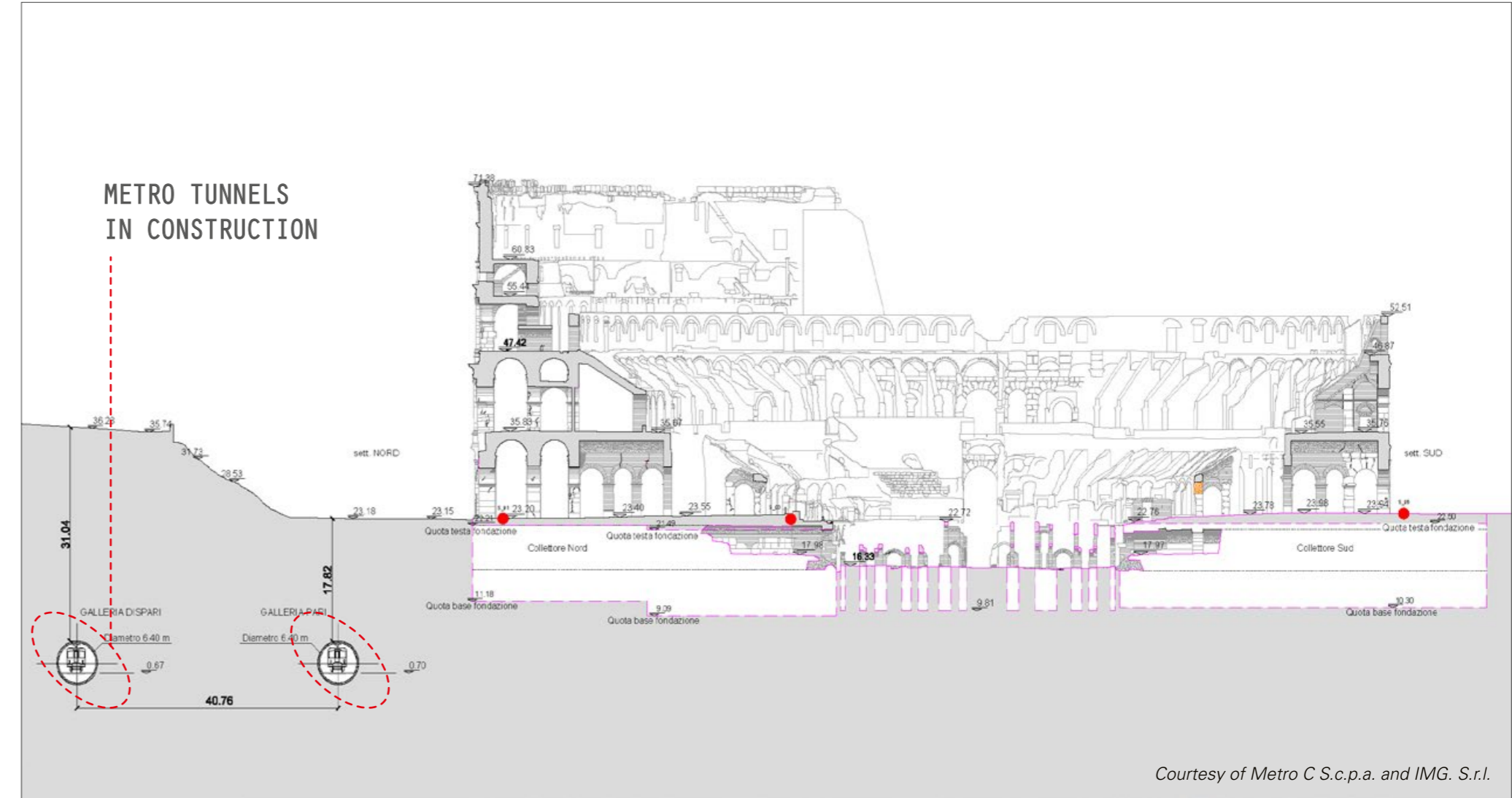
New Line C tunnel excavated with TBM machine. Concrete lining are instrumented with Sisgeo vibrating wire strain gauges

COLOSSEUM
 TEMPLE OF VENUS AND ROMA
 BASILICA OF MAXENTIUS



COLOSSEUM

The Colosseum's original Latin name was Amphitheatrum Flavium. The building was constructed by emperors of the Flavian dynasty, following the reign of Nero. Construction began under the emperor Vespasian in AD 72, and was completed in AD 80 under his successor and heir Titus. Colosseum today is the major tourist attraction in Rome with thousands of tourists each year, so that the maintenance of the structure is of primary importance for the City of Rome and for human history.



COLOSSEUM

SISGEO INSTRUMENTS INSTALLED IN THE COLOSSEUM AREA

22 JOINTMETERS

12 WIRE DEFORMOMETERS

7 TILTMETERS

4 THERMOMETERS

ON THE STRUCTURE

2 INCLINOMETER COLUMNS

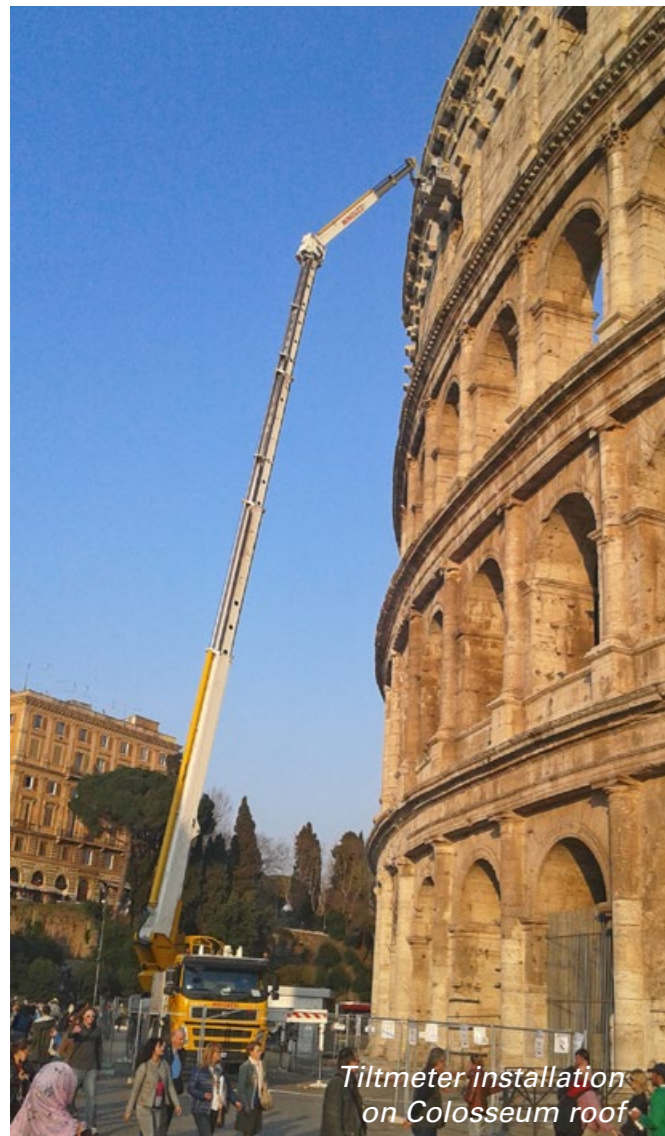
2 MULTIPOINT BOREHOLE EXTENSOMETERS

2 CASAGRANDE PIEZOMETERS

2 VIBRATING WIRE PIEZOMETERS

IN THE GROUND

COLOSSEUM



*Tiltmeter installation
on Colosseum roof*



*Wire crackmeter (deformometer)
installed inside the Colosseum*



*MiniOMNIAlog data logger
for data collecting and transmission*

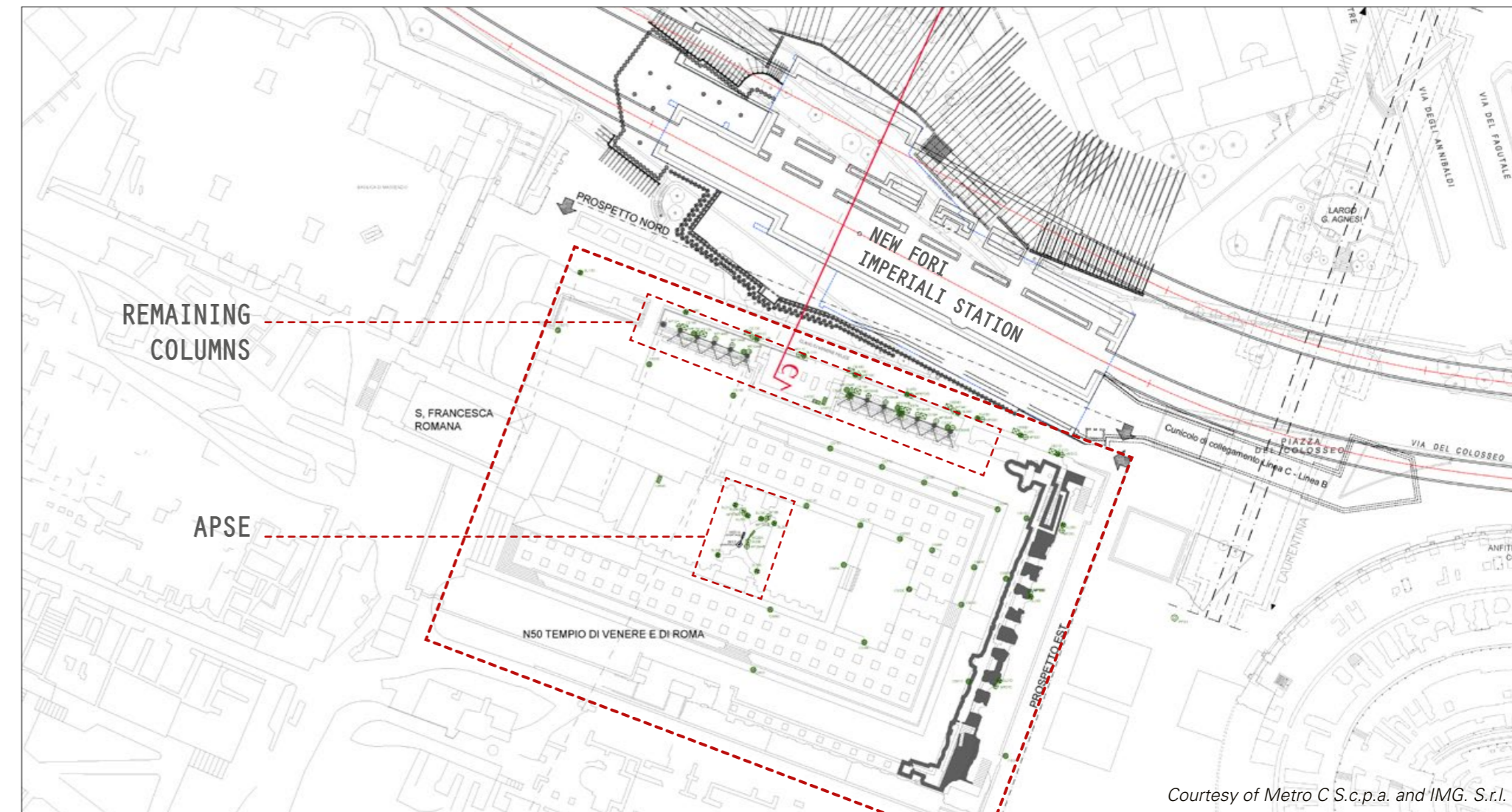
TEMPLE OF VENUS AND ROMA

The Temple of Venus and Roma is thought to have been the largest temple in Ancient Rome. Located on the Velian Hill, between the eastern edge of the Forum Romanum and the Colosseum, it was dedicated to the goddesses Venus Felix and Roma Aeterna. The architect was the emperor Hadrian and construction began in AD 121.

Sisgeo instruments are installed on the temple apse and on the metal frames supporting the remains of the columns.

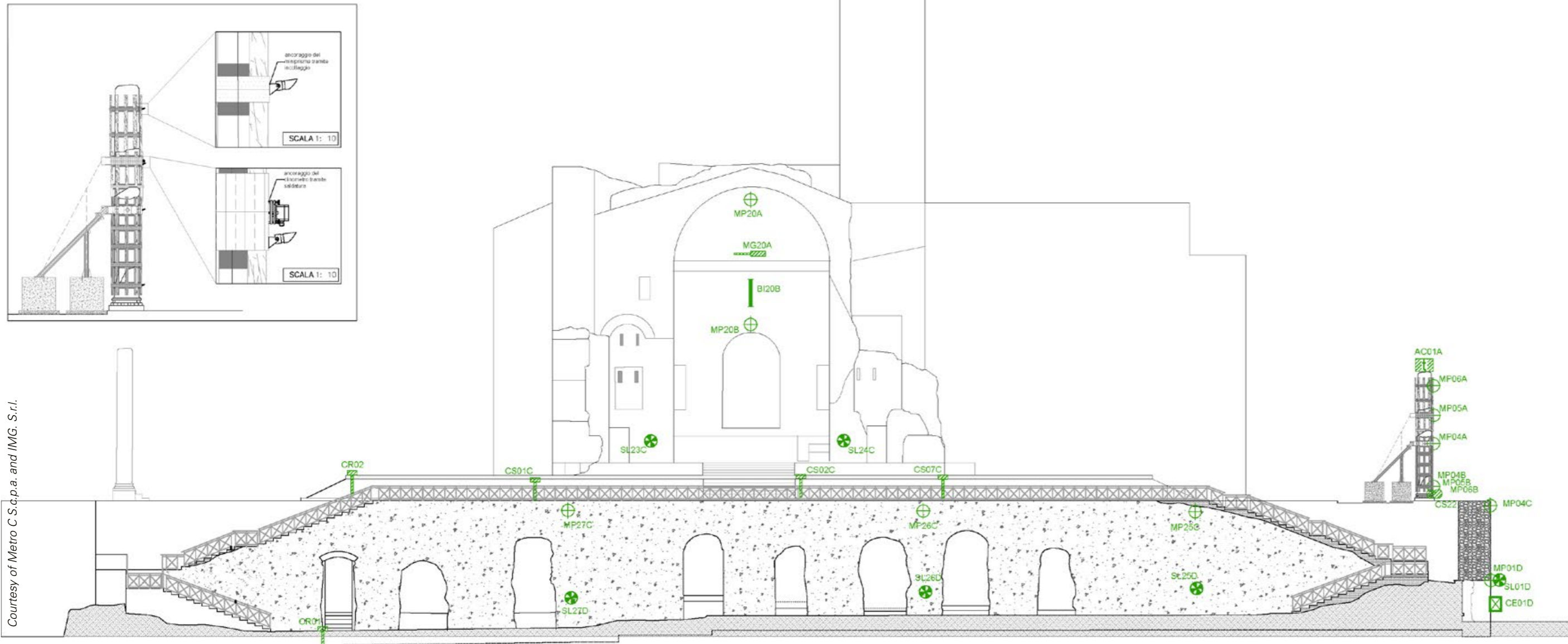


View of Temple of Venus and Roma from the Colosseum



Courtesy of Metro C S.c.p.a. and IMG. S.r.l.

TEMPLE OF VENUS AND ROMA



SISGEO INSTRUMENTS INSTALLED IN THE TEMPLE OF VENUS AND ROMA

20 VW SPOT WELDABLE STRAIN GAUGES

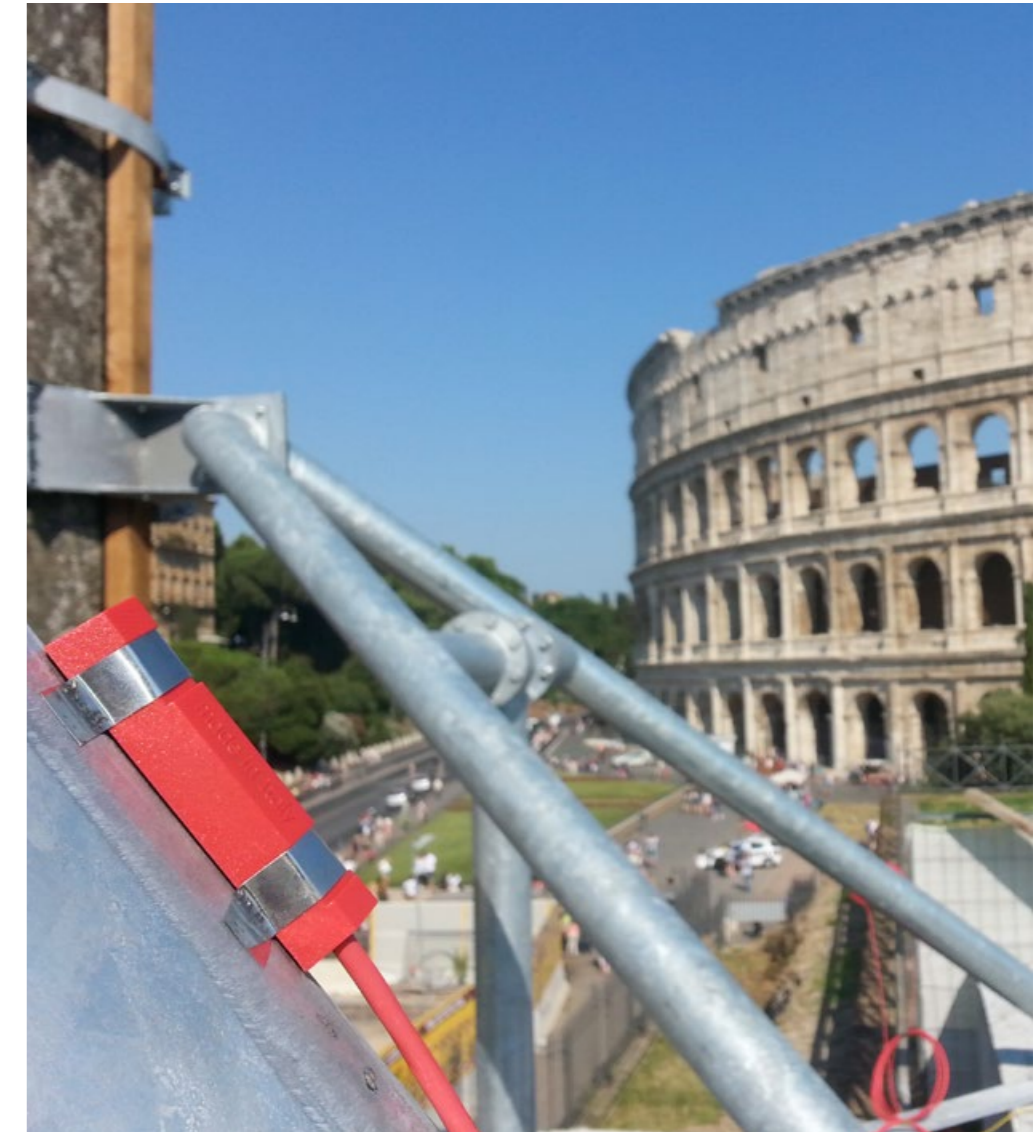
10 TILTMETERS

3 TILT BEAMS

2 JOINTMETERS

ON THE STRUCTURE

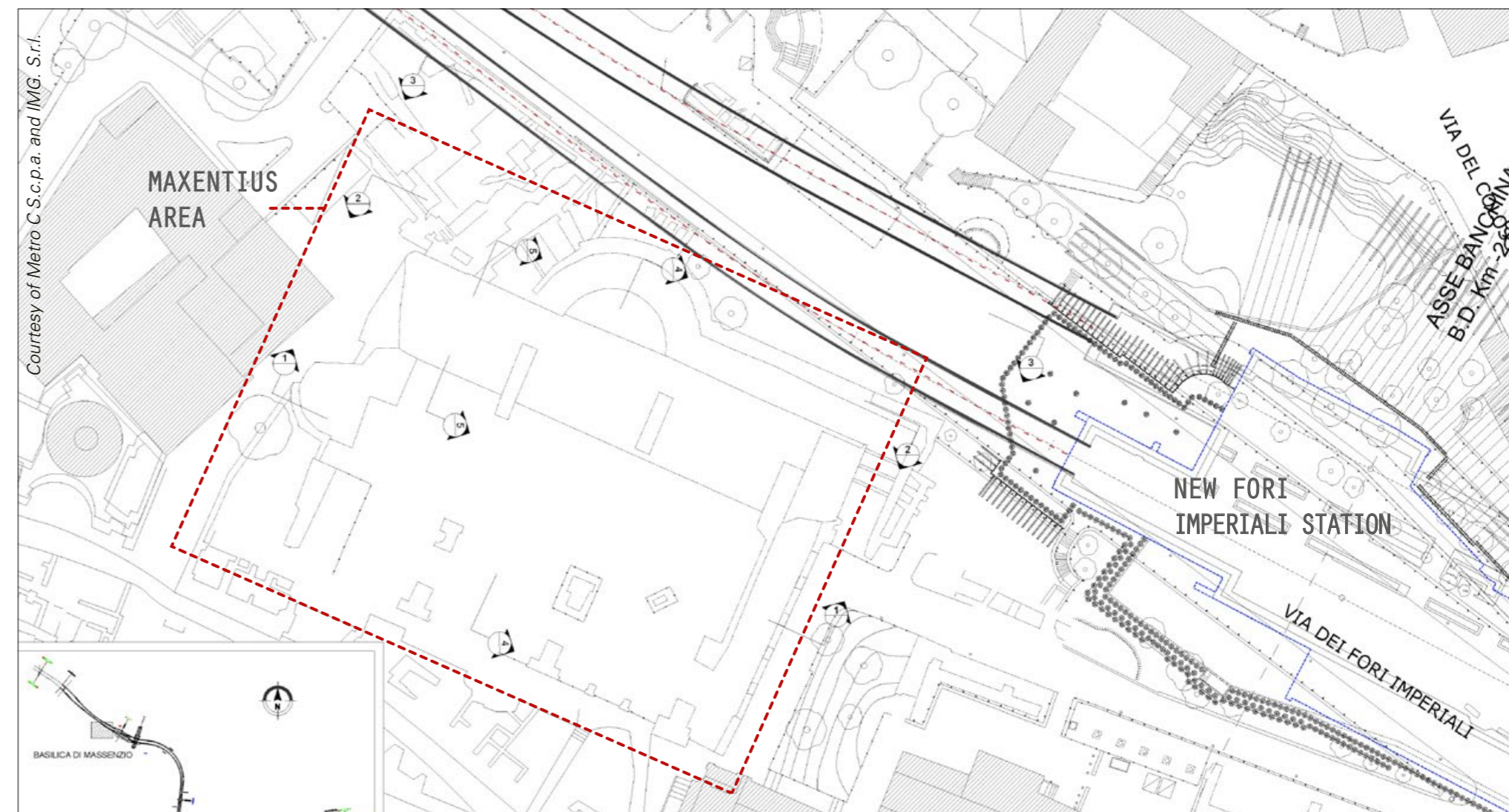
TEMPLE OF VENUS AND ROMA



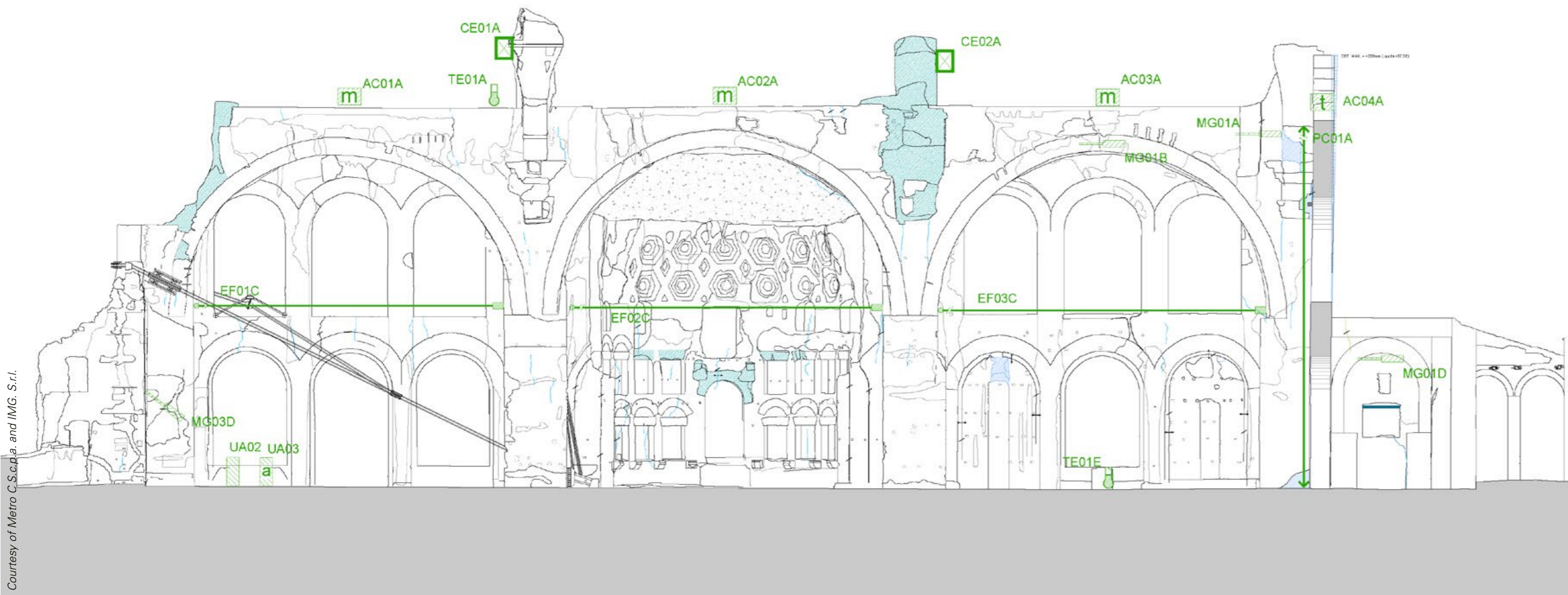
MAXENTIUS BASILICA

The Basilica of Maxentius and Constantine was the largest building in the Roman Forum. Construction began on the northern side of the forum under the emperor Maxentius in AD 308. The building consisted of a central nave covered by three groin vaults suspended 39 meters above the floor on four large piers, ending in an apse at the western end containing a colossal statue of Constantine. The lateral forces of the groin vaults were held by flanking aisles measuring 23 by 17 metres.

The south and central sections were probably destroyed by the earthquake of 847. In 1349 the vault of the nave collapsed in another earthquake. All that remains of the basilica today is the north aisle with its three concrete barrel vaults.



MAXENTIUS BASILICA



SISGEO INSTRUMENTS INSTALLED ON MAXENTIUS BASILICA

- 10 JOINTMETERS
- 5 TILTMETERS
- 5 WIRE DEFORMOMETERS
- 2 DIRECT PENDULUMS WITH AUTOMATIC READOUT
- 2 THERMOMETERS

ON THE STRUCTURE



MAXENTIUS BASILICA



Tiltmeter installation



Digital tiltmeter installed on Maxentius Basilica



Direct pendulum and tele pendulum



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