

Linking Pasts and Sharing Knowledge

Mapping Archaeological Heritage, Legacy Data Integration
and Web Technologies for Modelling Historical Landscapes

Organised by

Dipartimento Studi Umanistici.
Università di Napoli Federico II

The Digital Humanities Institute.
University of Sheffield

LAD: Laboratorio di Archeologia Digitale
alla Sapienza



With the patronage of

Consulta di Topografia antica

AIUCD: Associazione per l'Informatica Umanistica e
la Cultura Digitale



THE SITAR PROJECT: NEW DEVELOPMENTS AND FUTURE PROSPECTS

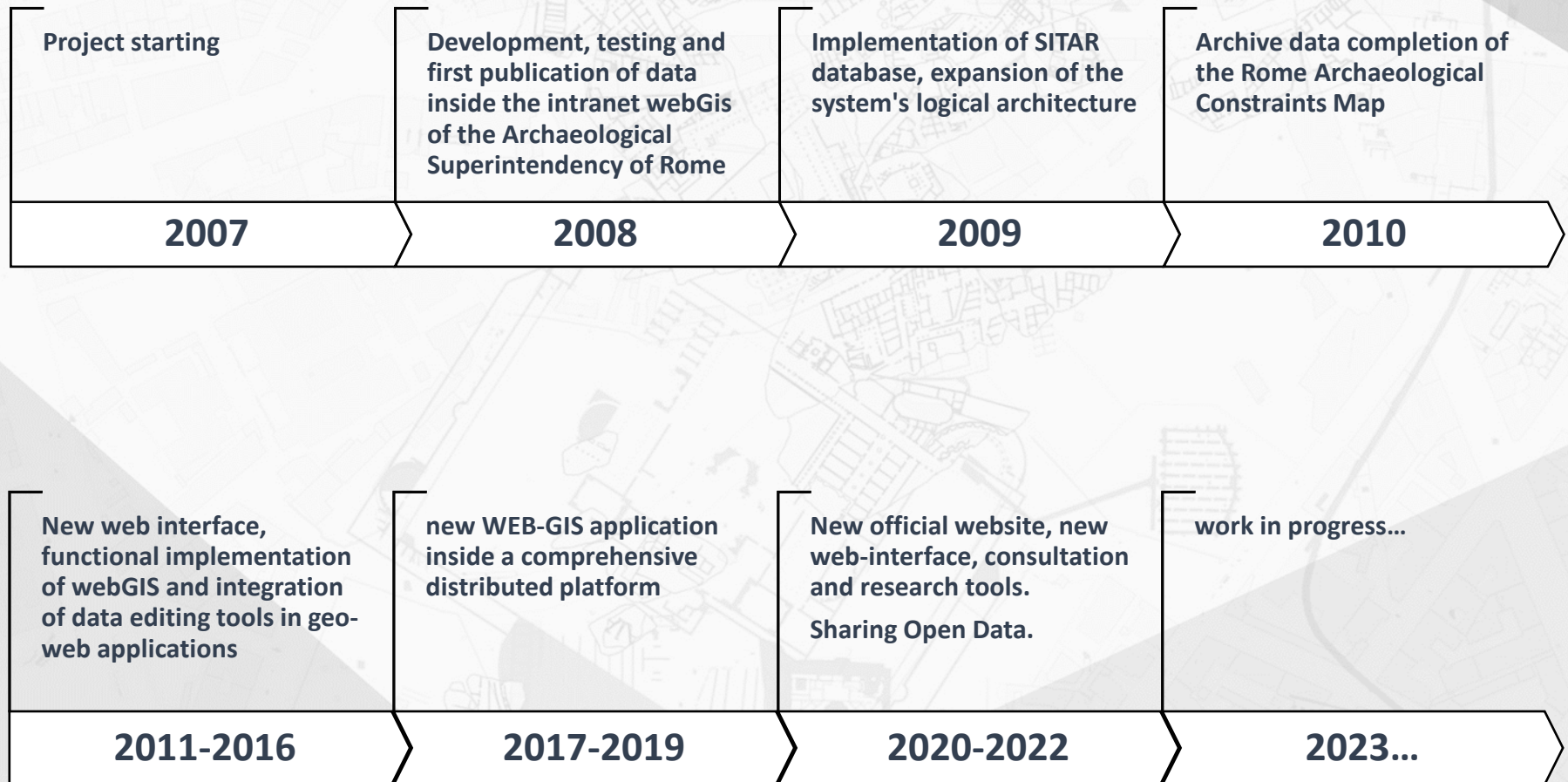
<https://www.archeositarproject.it/>

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Geologist/GIS expert – SITAR consultant
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Archeologist/GIS expert – SITAR consultant

13th-14th November 2023

Naples, University of Naples Federico II Department of Humanities Aula ex
Cataloghi Lignei

SITAR: a 16 years project



SITAR: main institutional goals

to **OVERCOME** years of **delay** in standardization processes for archaeological data management of the Superintendence

to **SIMPLIFY** management/administrative framework in order to enhance processes related to the protection and promotion of Cultural Heritage

to **BUILD** a flexible and dynamic tool that can be expanded and modified, according to new needs

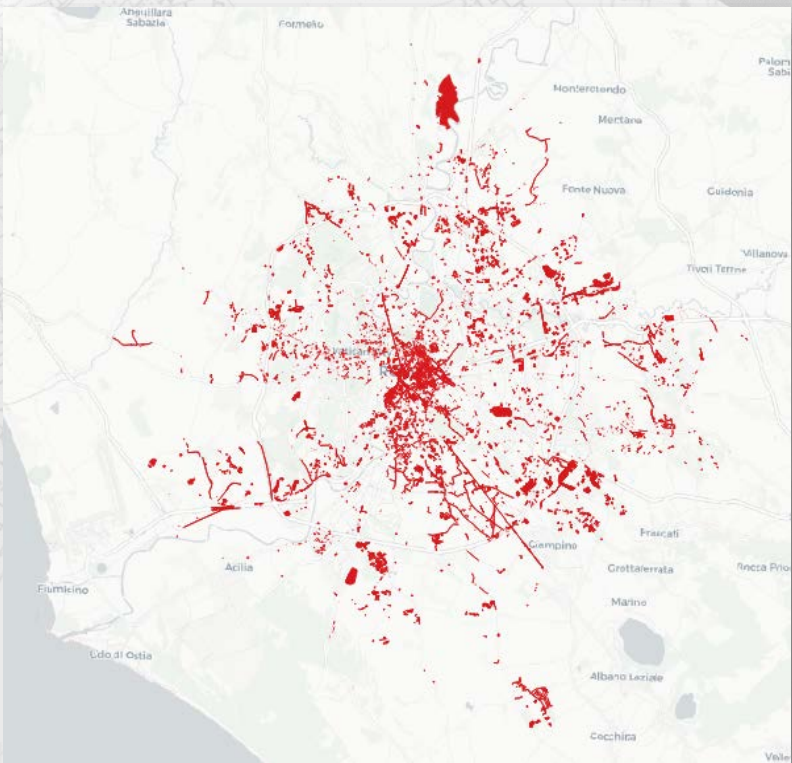
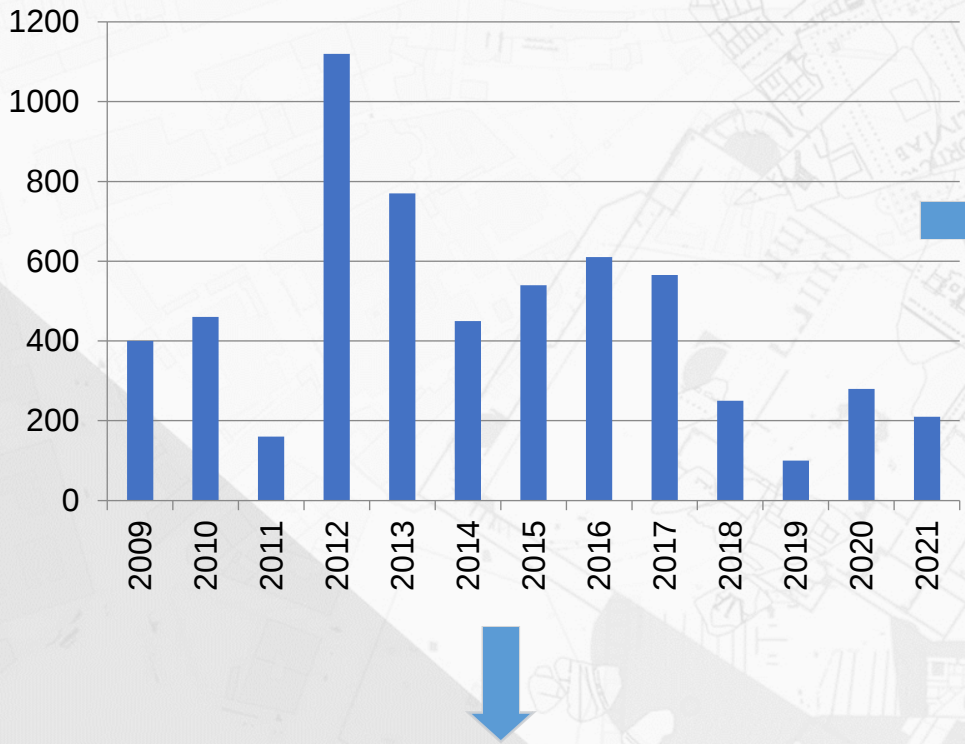
to **TAKE ADVANTAGE** of previous experiences within the Superintendence and other institutions with already acquired and available data

to **OFFER** an online open-data webgis tool for sharing archaeological data of Rome

to **PROVIDE** new tools in order to better inform and influence a responsible urban and landscape planning

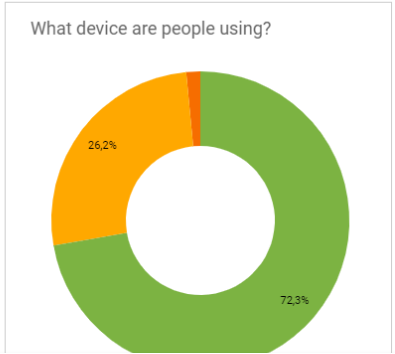
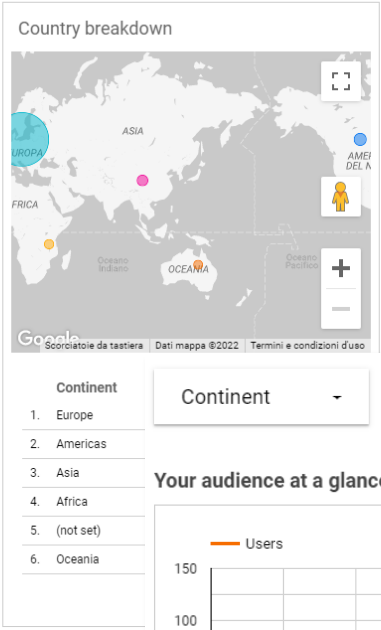
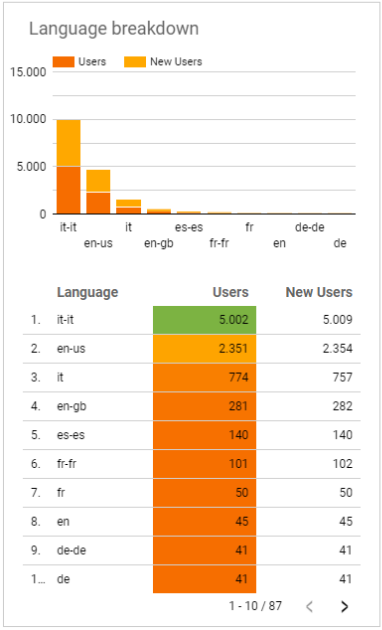
SITAR: a comprehensive geodatabase for archaeological data of Rome

> **6.000** archaeological excavations



> **20.000** archaeological features

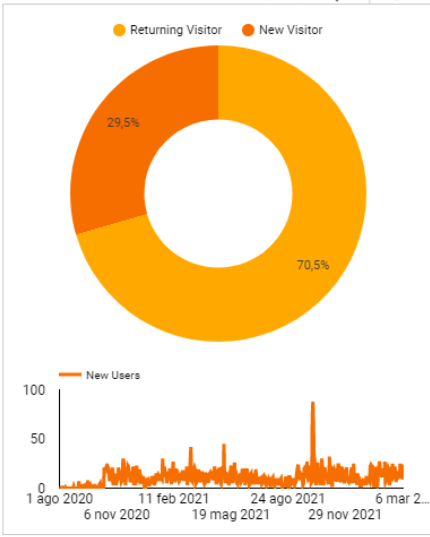
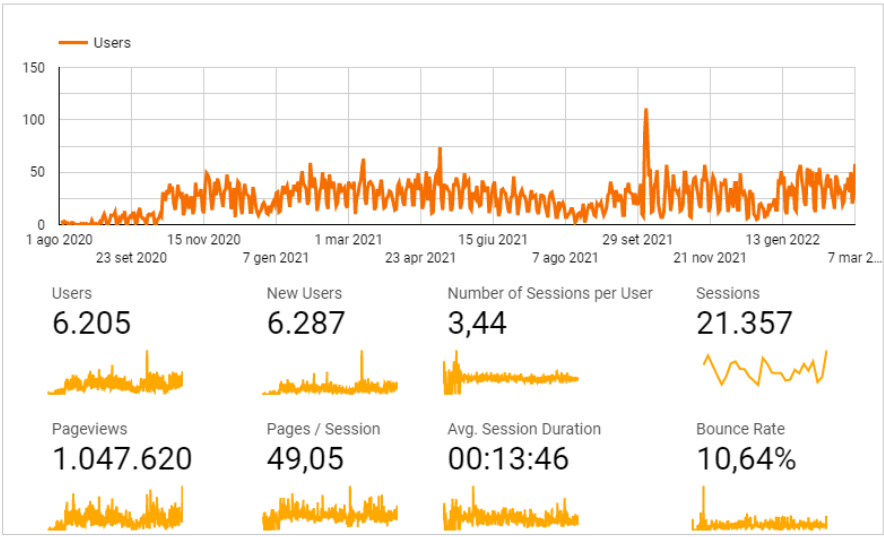
Let's learn a bit more about your users!



national and international visitors

Continent Region Channel Device 1 ago 2020 - 7 mar 2022

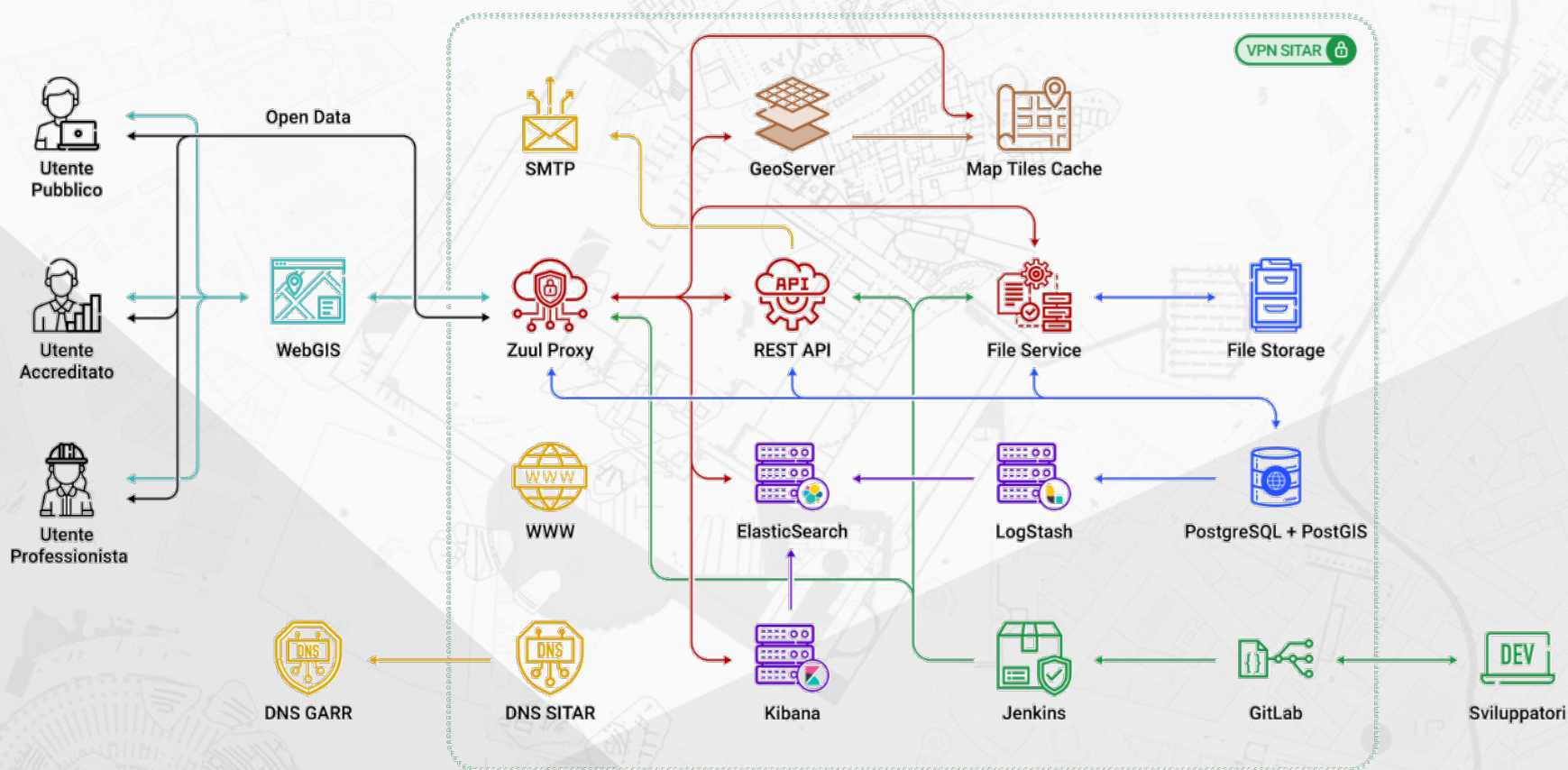
Your audience at a glance



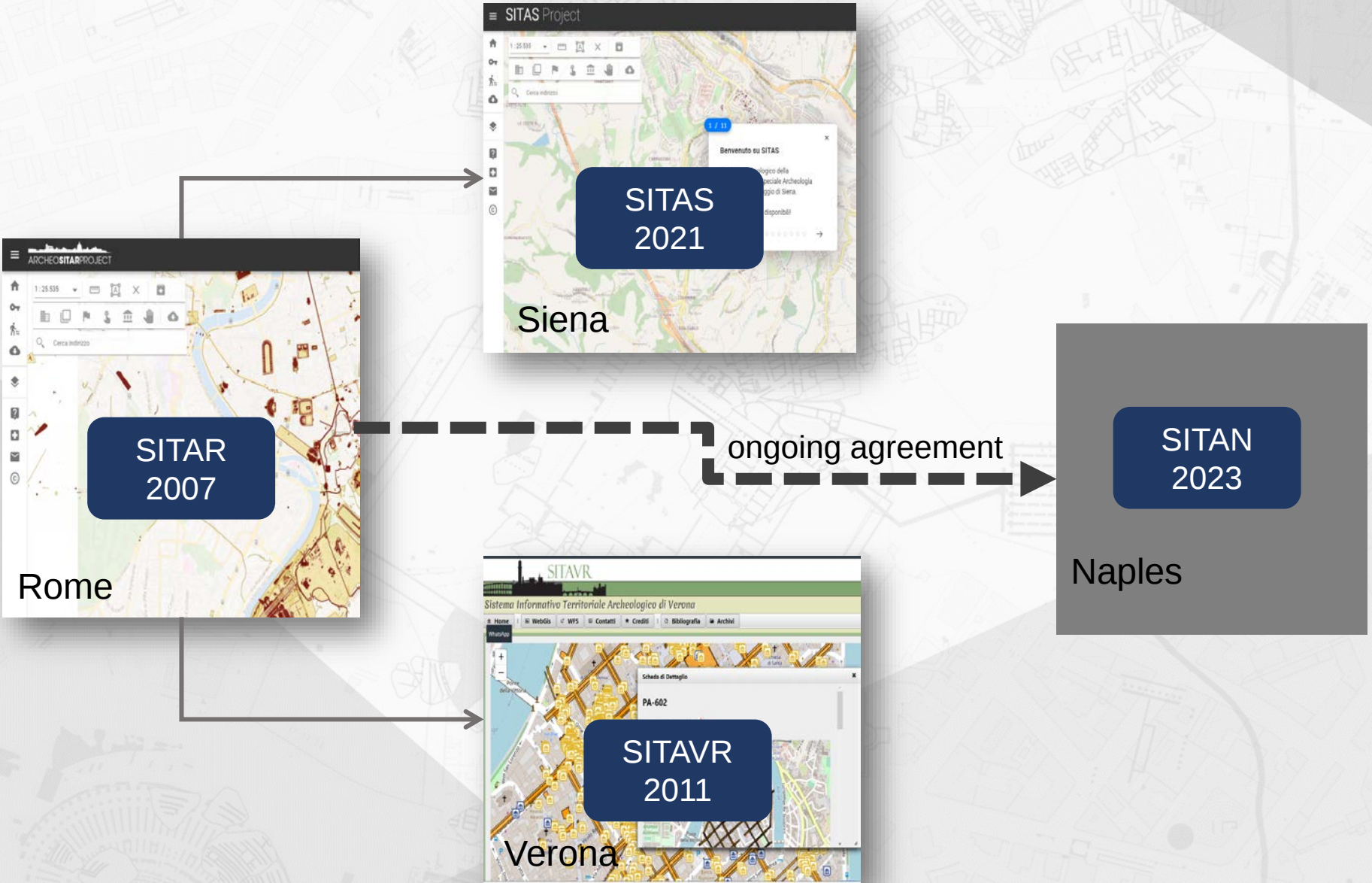
new and returning visitors

SITAR FAMILY: a shared platform for urban archaeological data

- OPEN DATA services
- Collaborative services (request for change & download)
- Scalable and module based system (possible integration of other management tools)



SITAR FAMILY: a shared platform for urban archaeological data



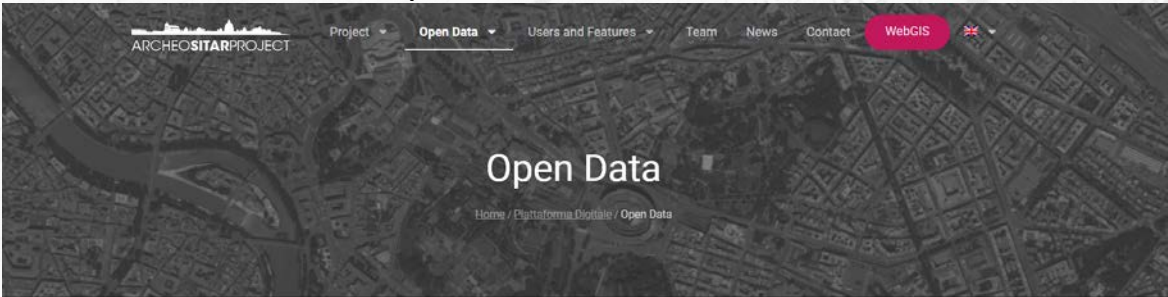
NEW DEVELOPMENTS AND FUTURE PROSPECTS

1. SITAR OPEN DATA POLICIES AND TOOLS
2. FEEDING SITAR FROM THE FIELD: NEW TOOLS FOR PROFESSIONALS AND PUBLIC USERS
3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

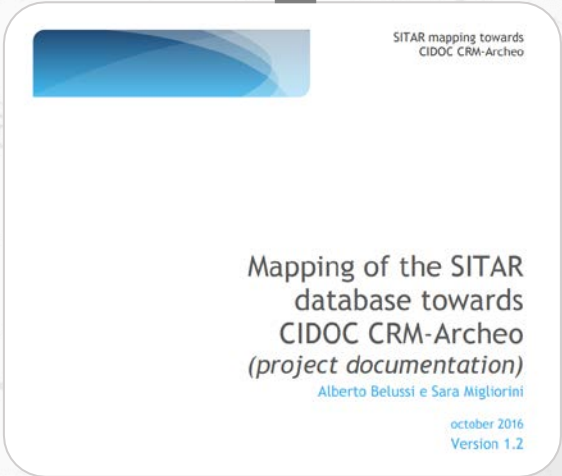
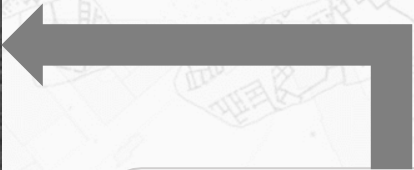
1. SITAR OPEN DATA POLICIES AND TOOLS

1. SITAR OPEN DATA POLICIES AND TOOLS

Full documentation on public web-site



SITAR pursues a data **publication strategy** in line with the principles of [Open Science](#). The data are [structured and tagged with metadata](#) to be interoperable with similar projects. The **OPEN DATA** Digital Platform contains spatial and attribute data and documents on over 6000 studies: the spatial data can be viewed, queried and acquired with a [free license](#) in the **principal open raster** ([geotiff](#), [geotiff8](#), [SVG](#)), vectorial ([gml2](#), [gml3](#), [kml](#), [shapefile](#)) and textual **formats** ([geojson](#), [csv](#)), as well as through dedicated **network geoservices** ([WMS/WFS](#)). Additionally, all the information present on the platform can be used by external systems via **RESTful API** in JSON format.



DOWNLOAD
SERVICES

REST API
SERVICES

directly from the
webgis platform

through standard
HTTP methods

1. SITAR OPEN DATA POLICIES AND TOOLS

WHICH DATA?

PUBLIC USERS

- Spatial data related to documented archaeological features
- Archaeological attributes related to «typology», «function», «chronology» etc..
- Selected images of the excavation (when available)
- Data accuracy and metadata

REGISTERED USERS

- Full documentation...the so called RAW DATA (reports, drawings, images, diagrams etc..)

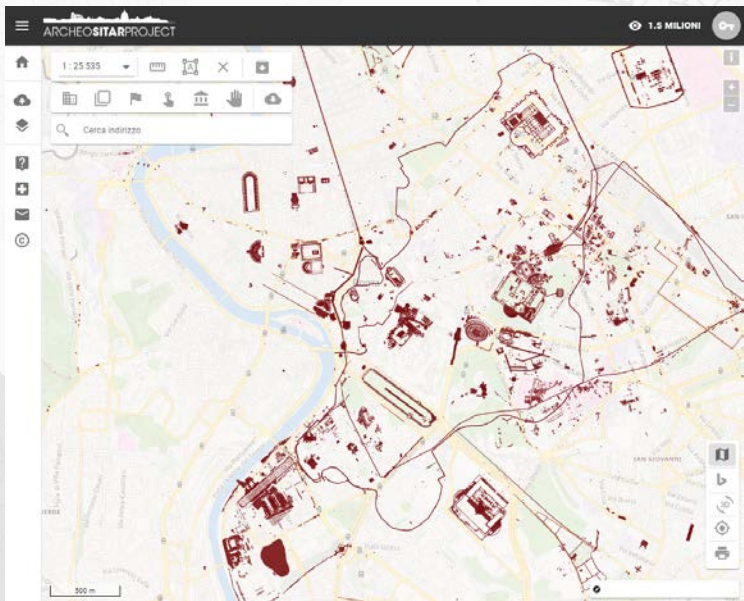
FOR EXCAVATIONS THAT HAVE BEEN COMPLETED FOR AT LEAST 7 YEARS

FROM MARCH 2022 ANYONE CAN ACCESS THE SCIENTIFIC MATERIALS ARCHIVED BY THE SUPERINTENDENCY AND MADE AVAILABLE FOR STUDY PURPOSES WITHOUT RESTRICTIONS

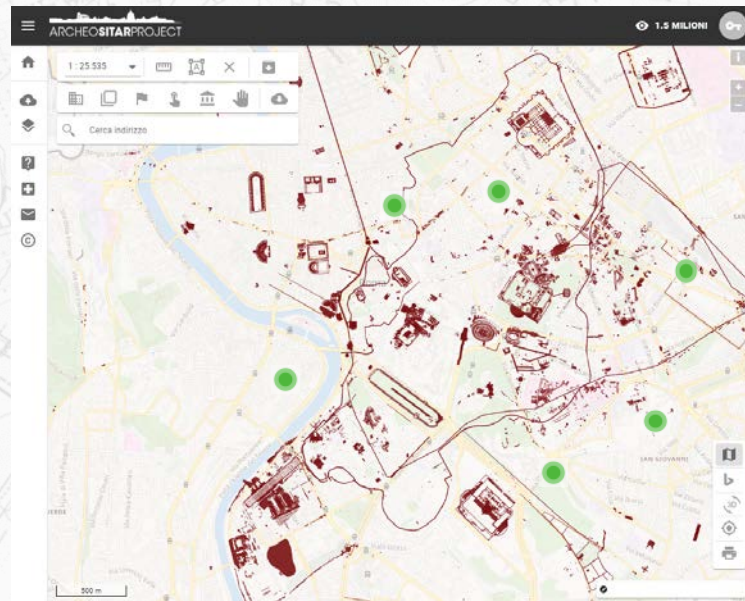
2. FEEDING SITAR FROM THE FIELD: NEW TOOLS FOR PROFESSIONALS AND PUBLIC USERS

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SINCE 2023



FROM 2024



SUPERINTENDENCY ARCHIVES
AND BIBLIOGRAPHIC RESEARCH

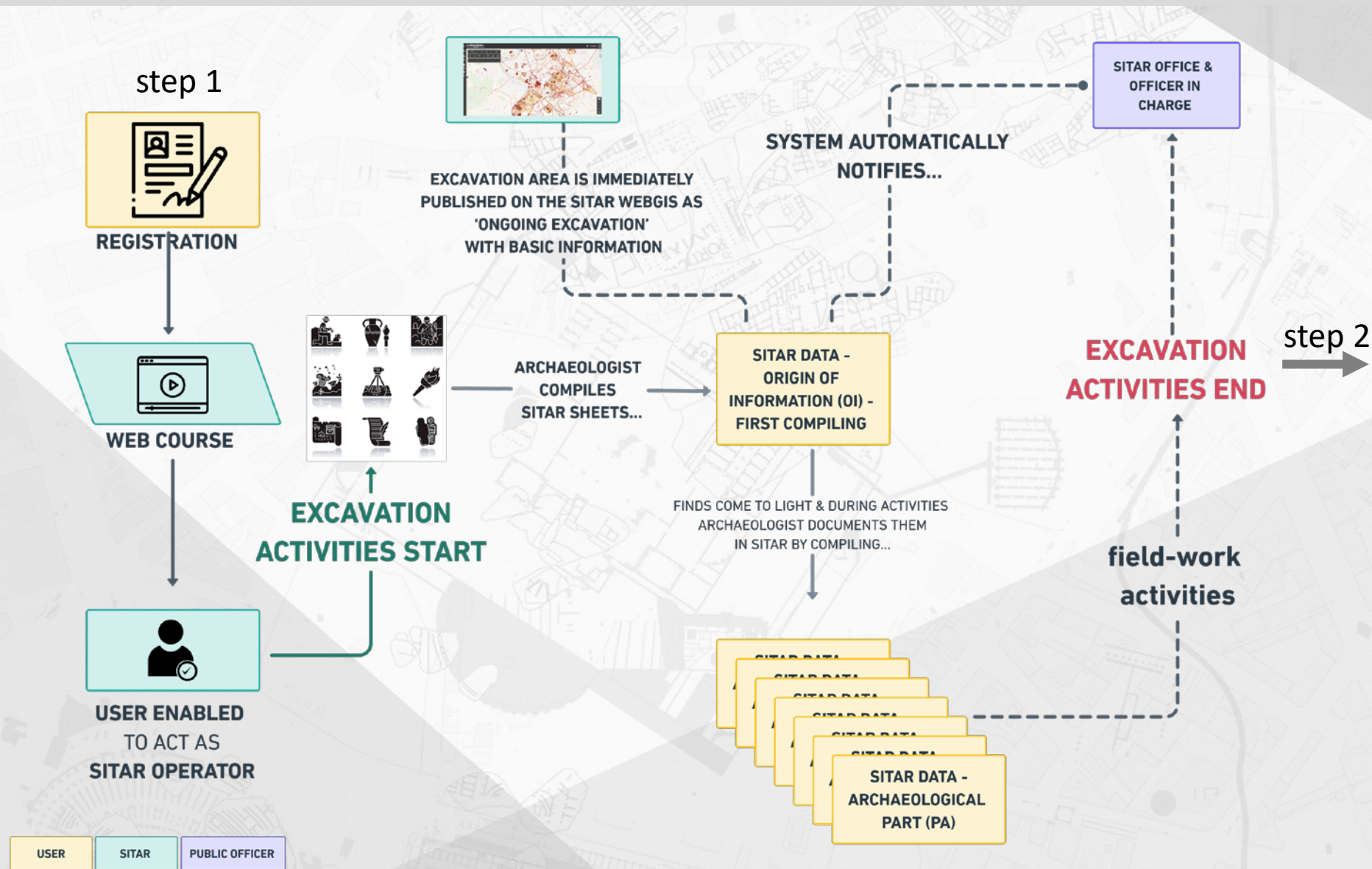
PROFESSIONAL ARCHAEOLOGISTS
DIRECTLY FROM THE FIELD

AWARENESS ON RUNNING
ARCHAEOLOGICAL ACTIVITIES

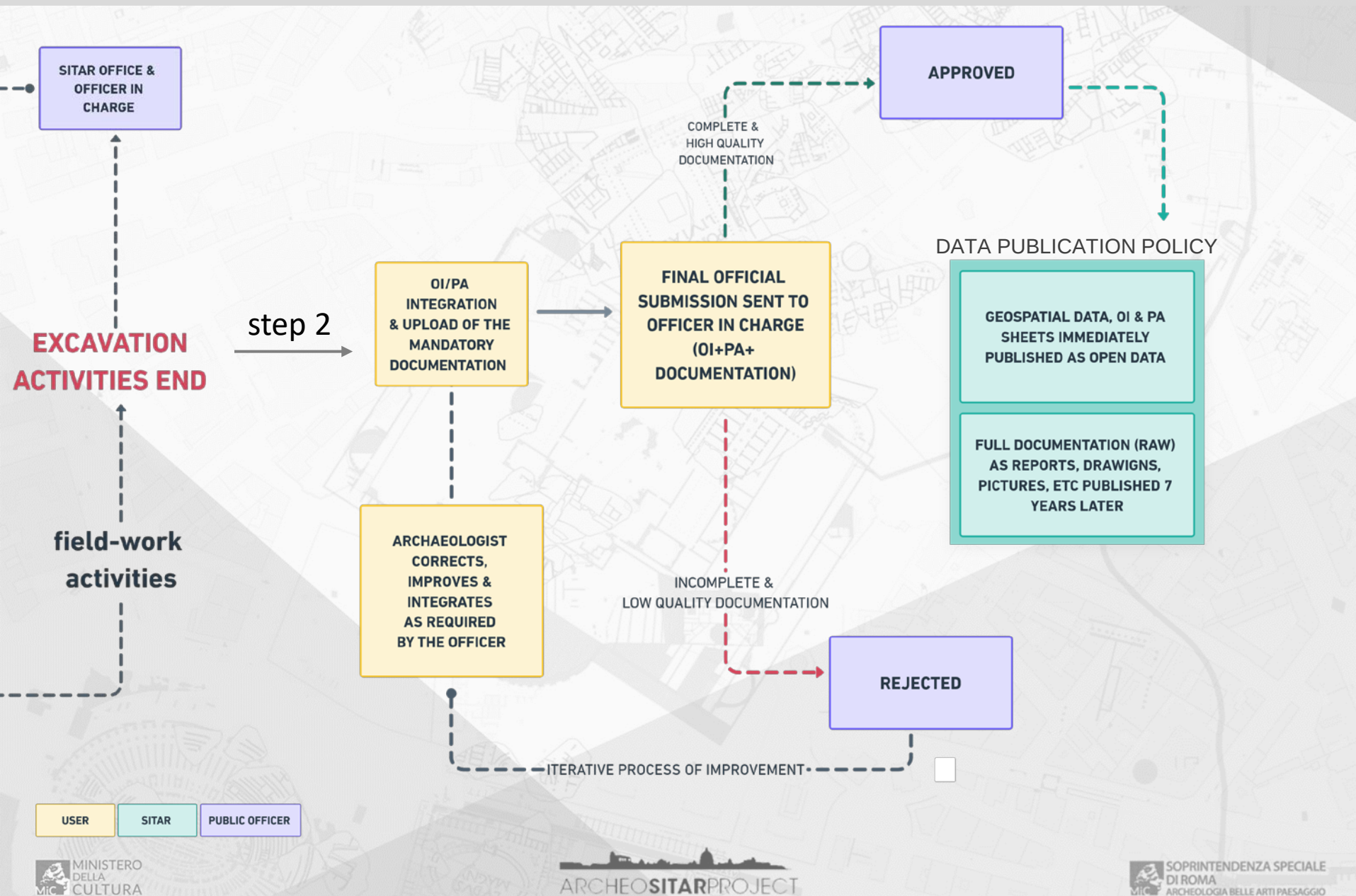
INSTITUTIONAL DATA
TRANSPARENCY

COLLABORATIVE
ARCHAEOLOGY APPROACHES

2. FEEDING SITAR FROM THE FIELD: NEW TOOLS FOR PROFESSIONALS AND PUBLIC USERS



2. FEEDING SITAR FROM THE FIELD: NEW TOOLS FOR PROFESSIONALS AND PUBLIC USERS



3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

5. **Questione di pesi: valori, parametri, relazioni per il calcolo del potenziale archeologico**

Gabriele Gattiglia, Francesco Ghizzoni Marcia (DOI: 10.4458/0917-05)

È stato, quindi, il
getto MAPPA pi
modificata dell
dall' assunto che
ne dei potenzial
a quelli adoper
segnazione d'im
pagine web si p
base al loro utili
MAPPA di funz
cheologi pensat
loro potenziale
relazioni (i link)
per gli aspetti
delle carte e all'i
di calcolo autom
si stimando al 5
to per costruzio

Anichini F., Bini M., Fabiani F., Gattiglia G., Giacomelli S., Gualandi M.L., Pappalardo M., Sarti G.

Prime riflessioni interdisciplinari sugli elementi che concorrono al calcolo del potenziale archeologico di un'area urbana.

ARCHEO-RESTITUZIONI TERRITORIALI E URBANE,
VALUTAZIONE DEL RISCHIO ARCHEOLOGICO
E SOFTWARE OPEN SOURCE

¹ La red
tracce d
straffin

What is the colour of darkness? Evaluation of the archaeological potential assessment

© Gašper Rutar
Zavod za varstvo kulturne dediščine Slovenije, Center za preverjanje arheologije, gasper.rutar@zvkds.si

Izjava: Preventivna arheologija je konceptualna novost, ki arheološke raziskave vnese v sam postopek odločevanja postopov

Keywords: psychometric analysis; anthropological analysis; archaeological findings; non-invasive anthropological method

Zaradi vse močnejših pritiskov na preostle, ki so posledice gradnje industrijskih območij, infrastrukture in šolaje, bolj omejena poročila, in zlasti delovne metode, vstopi tega v prva ocenjena leta, ko so zaradi slovenske arheološke prakse uvedli vrsto konce in metodoloških novosti, pri tem umirajo pred

[gna.cultura.gov.it/wiki/index.php?title=Compilare_il_MURK&vkr=Canta_del_potenziale](#)

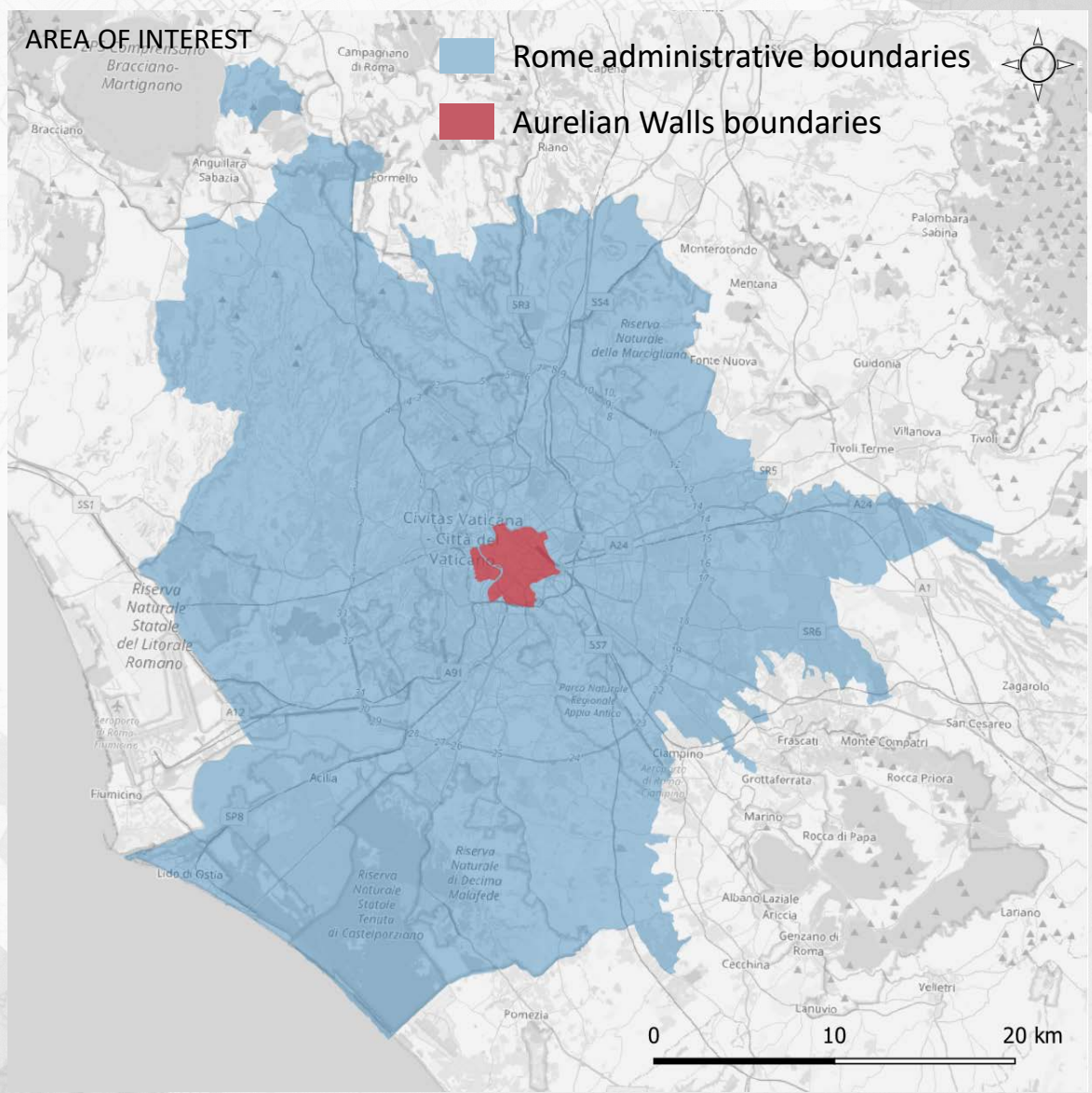
Dati raccolti con
standard GNA

Objetivo	Estado	Medida	Intervención
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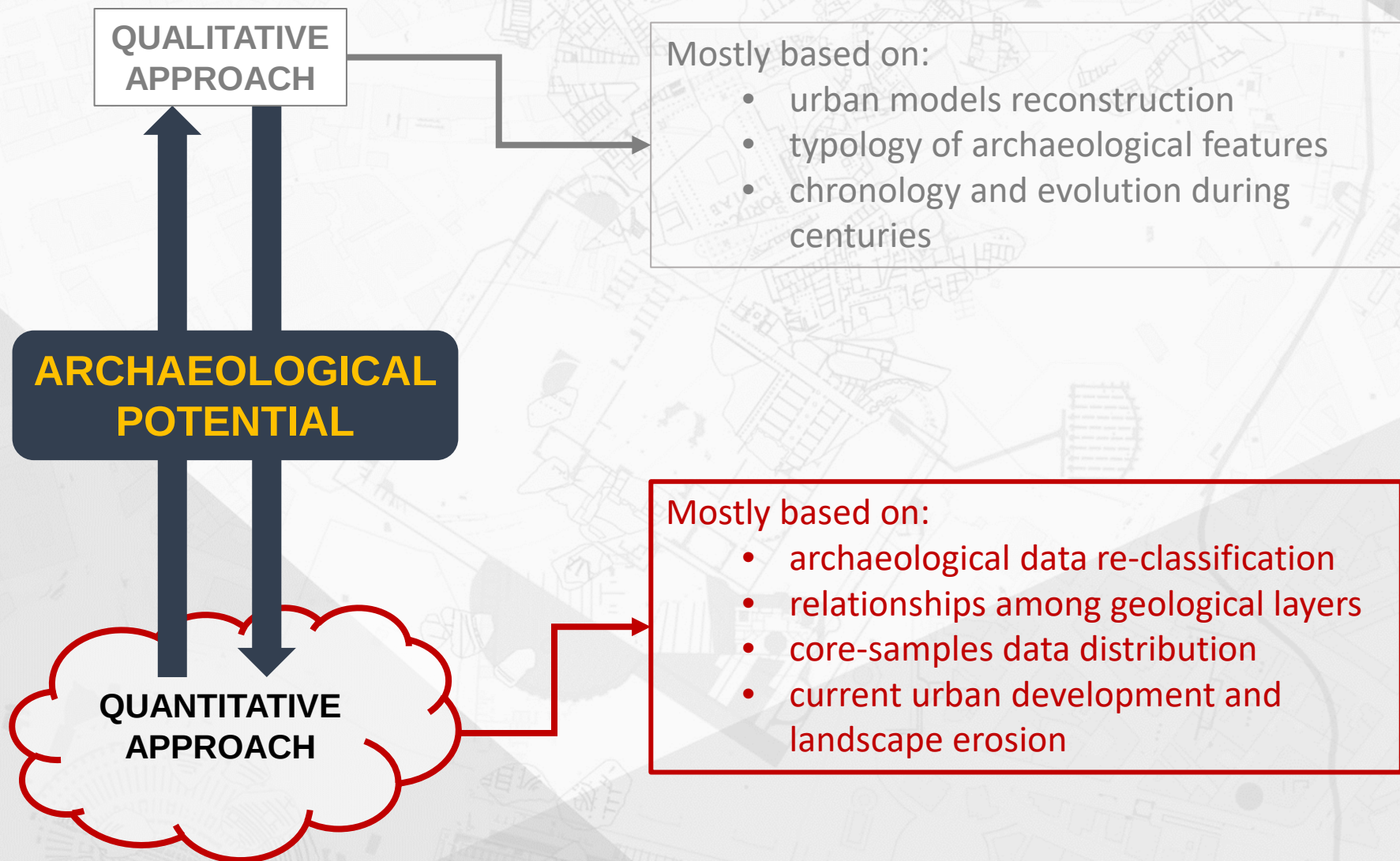
TABELLA 1 - POTENZIALE ARCHEOLOGICO	

[illegible]

3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

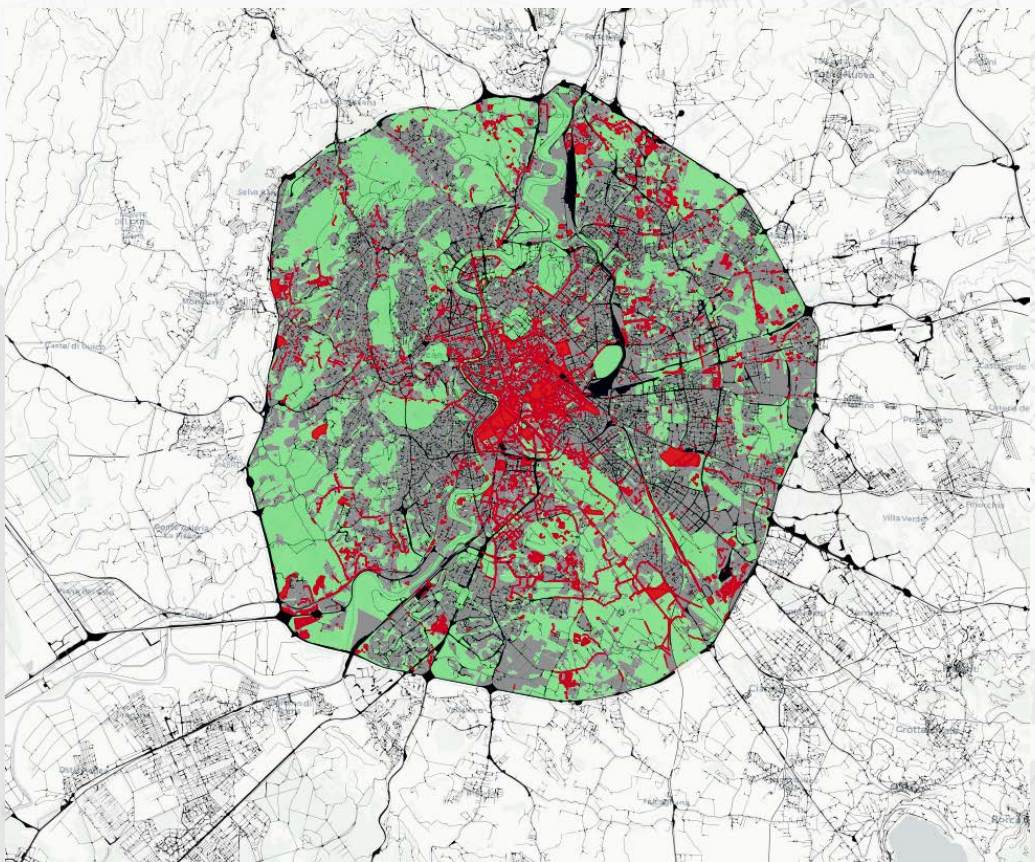


3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

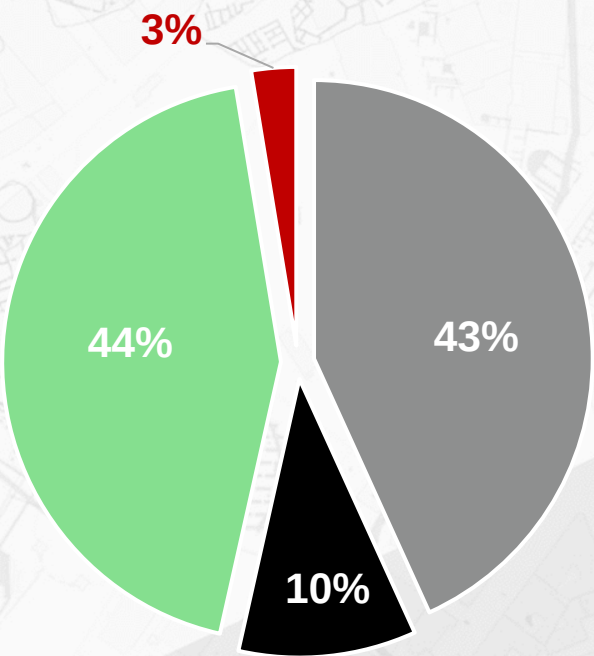


3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

How much have we documented?



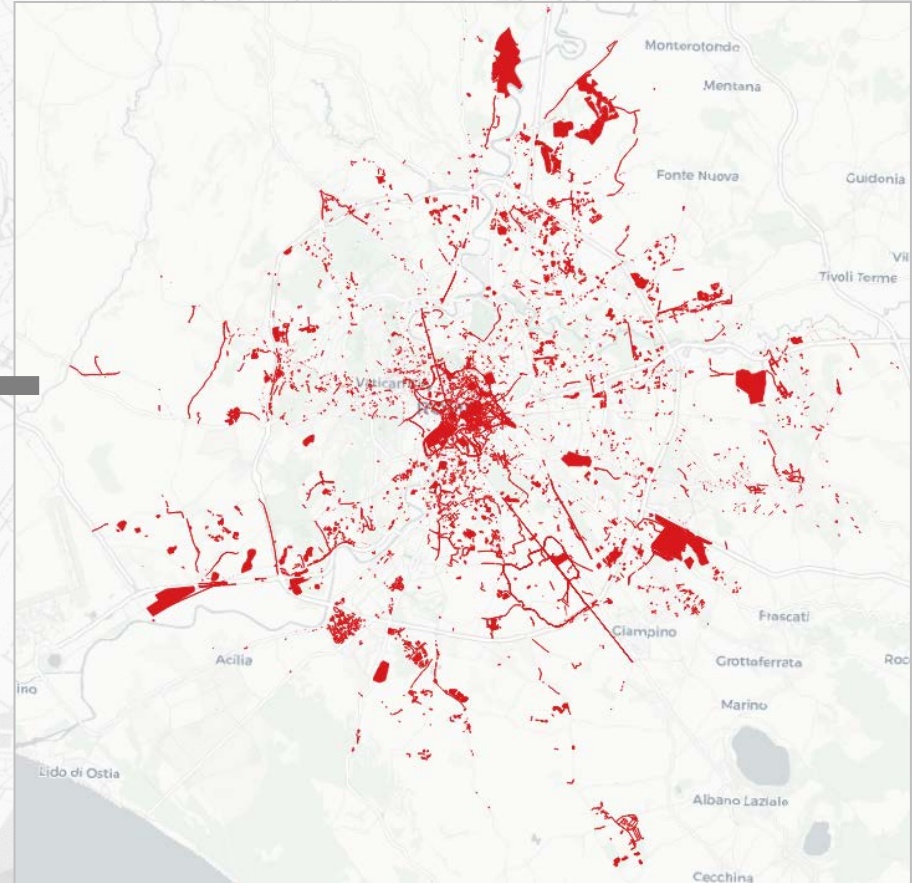
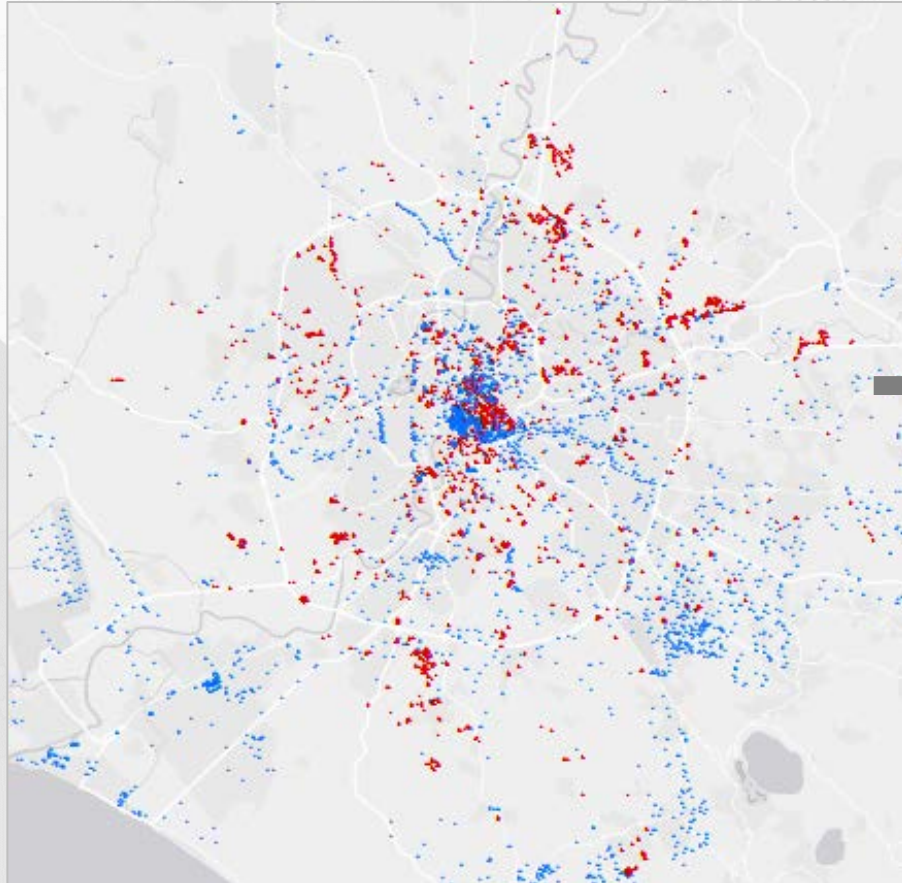
source: Copernicus – URBAN ATLAS 2018 Roma



- built areas
- non-built areas
- road network
- SITAR DATA

3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

Quantitative approach: data sources



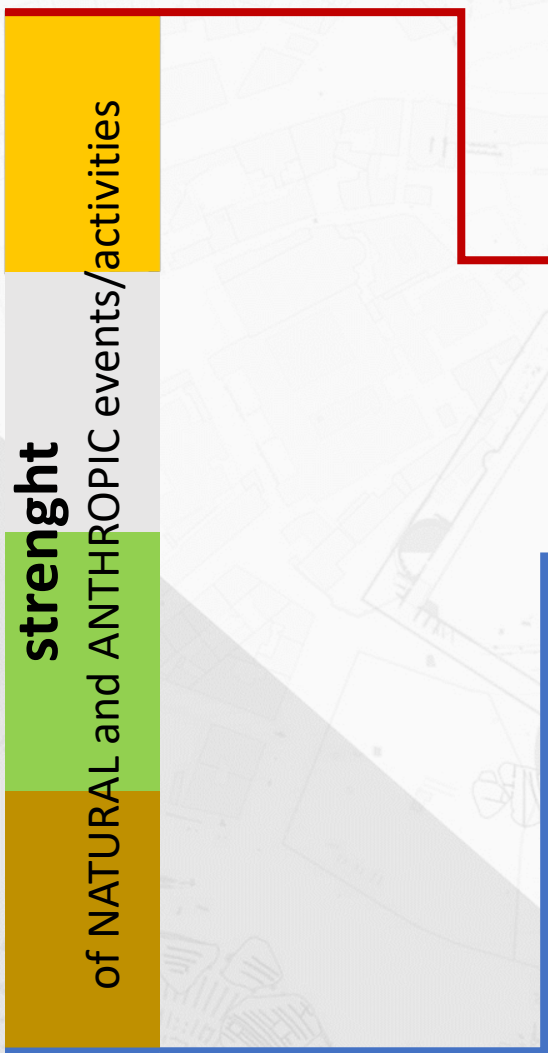
■ core-samples from different data-sources ■ archaeological layers heights from SITAR geodatabase

■ archaeological features distribution from SITAR geodatabase

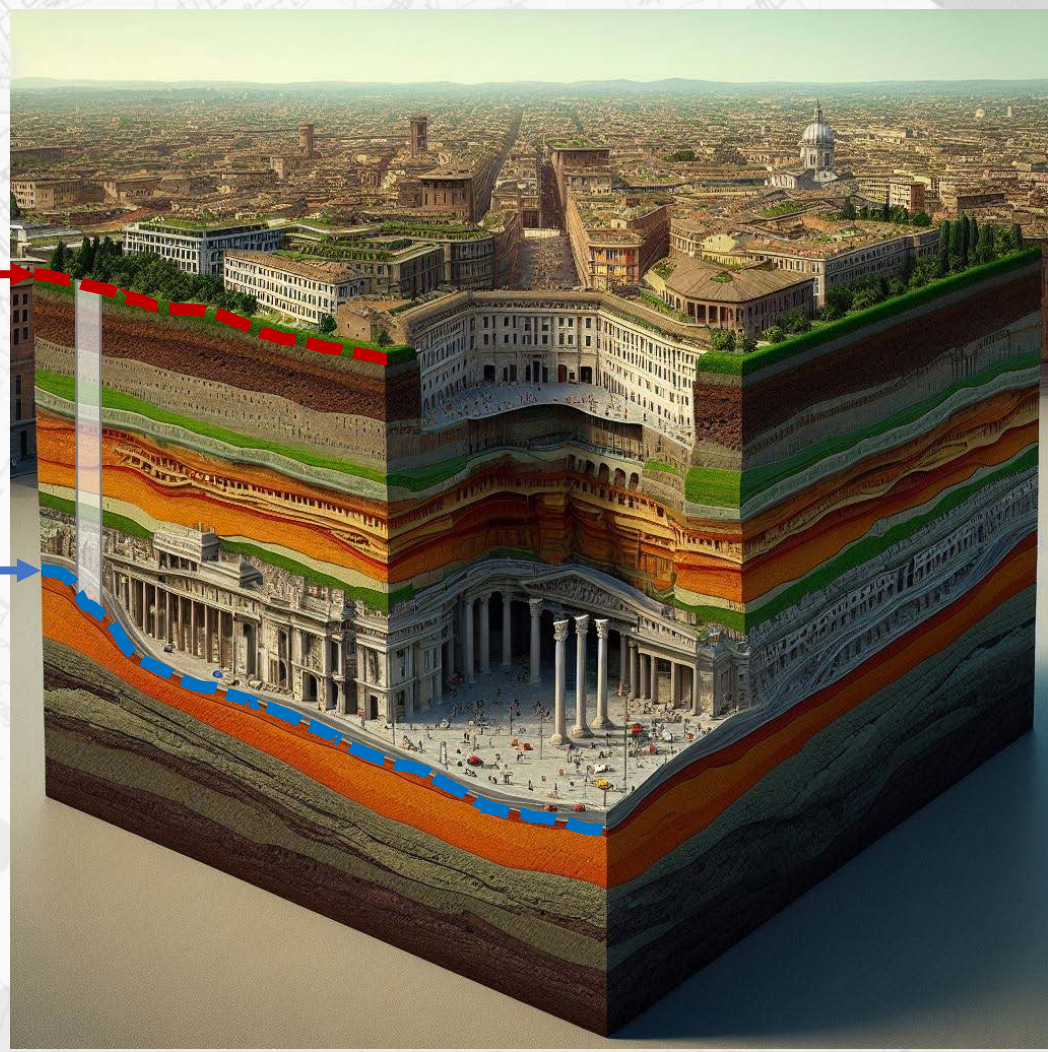
3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

Quantitative approach: defining TOP and BOTTOM layers

CURRENT SURFACE



GEOLOGICAL MODIFIED SURFACE



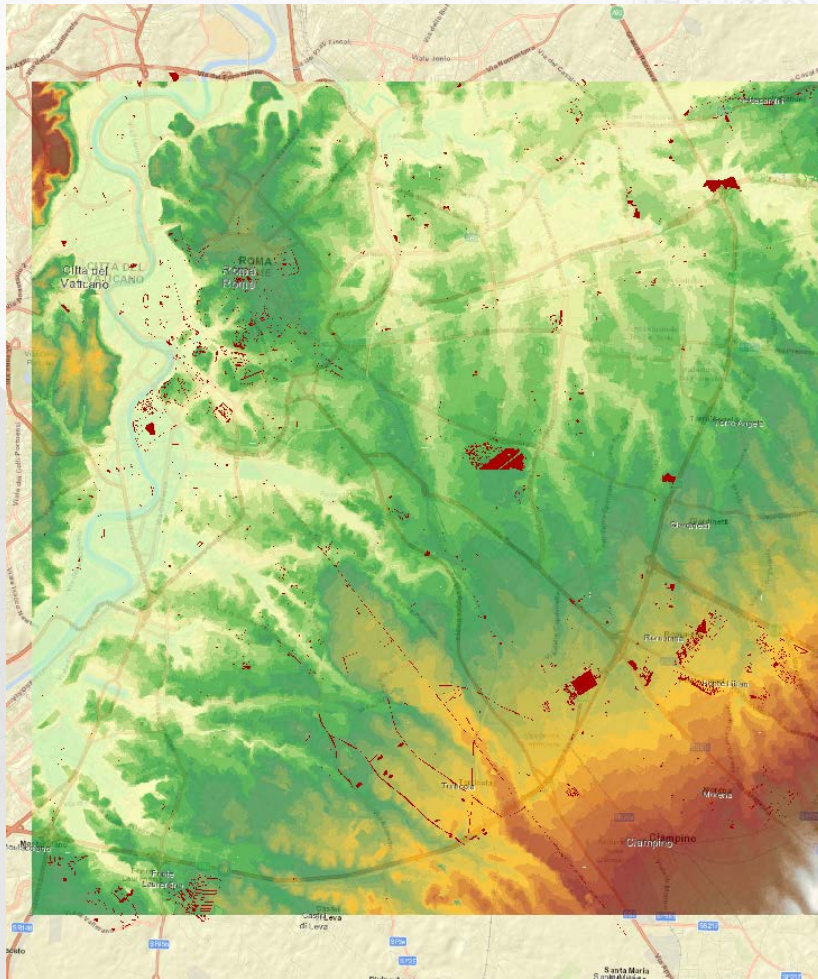
source: image created with Artificial Intelligence process

Samples of available data from SITAR geodatabase

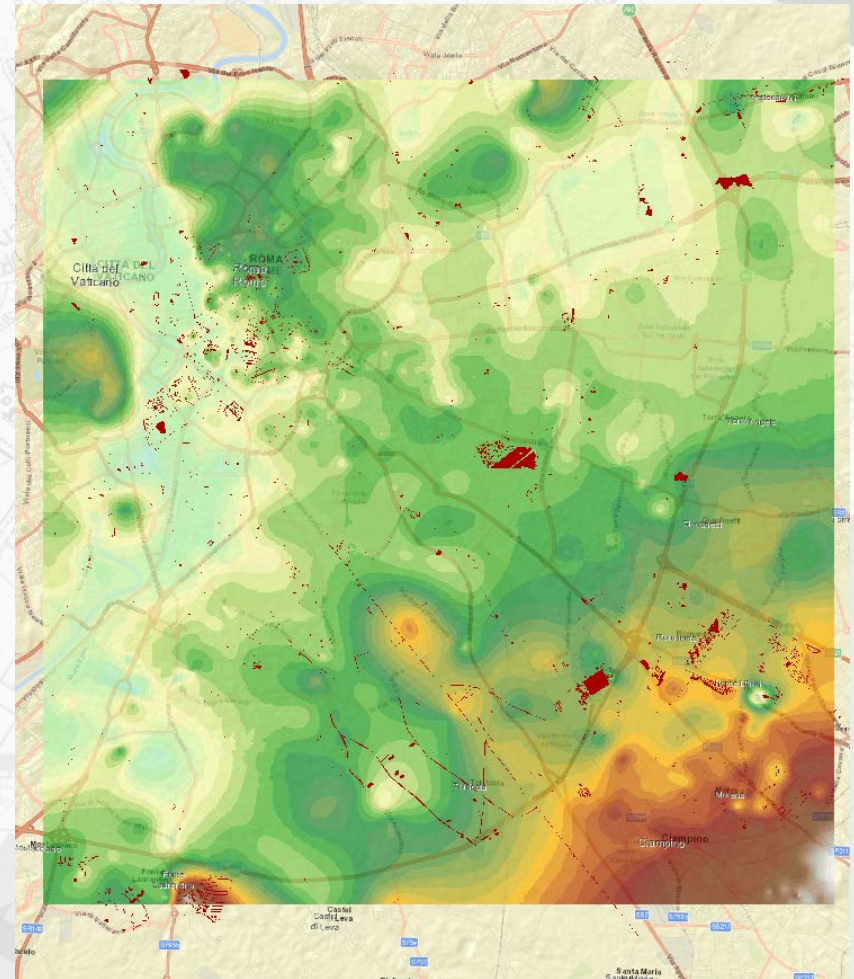


3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

Preliminary results with available data



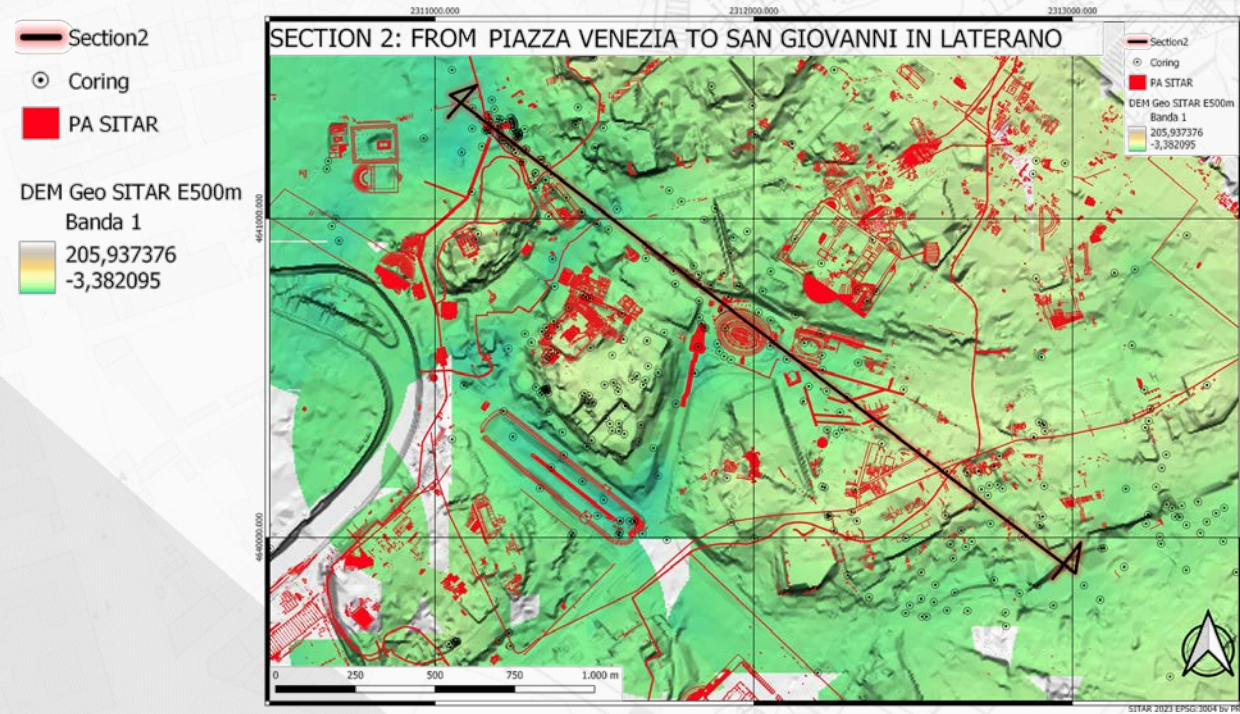
PORTION OF CURRENT SURFACE
(Digital Elevation Model from Lazio Region Open Data Portal)



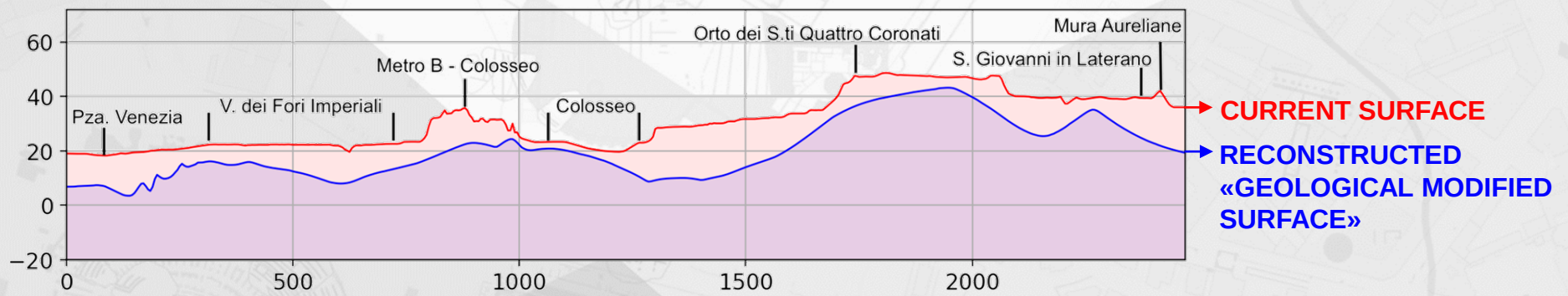
**PORTION OF RECONSTRUCTED «GEOLOGICAL
MODIFIED SURFACE» WITH AVAILABLE DATA**

3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

Preliminary results with available data

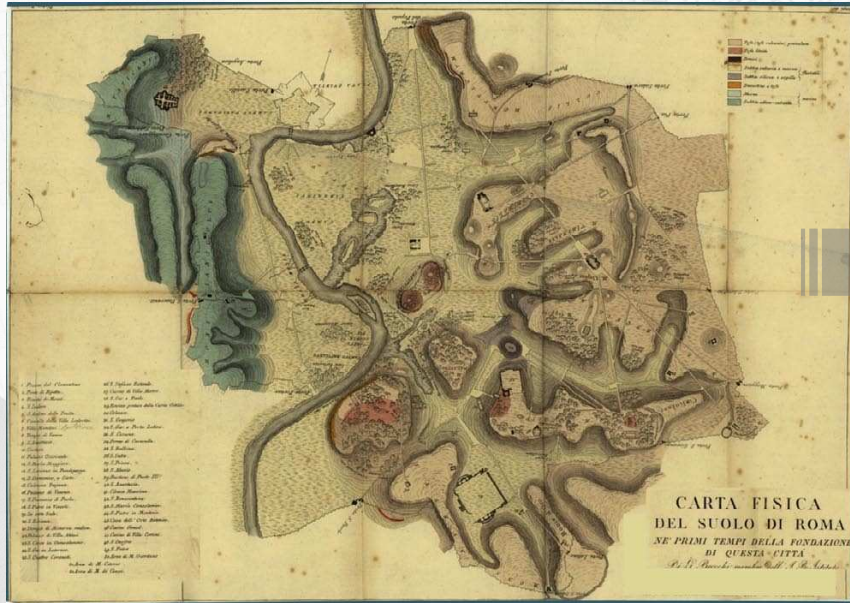


Both surfaces will need to be better defined integrating other available data source (spatial and non-spatial) in order to refine accuracy and classification



3. NEW APPROACHES FOR ARCHAEOLOGICAL POTENTIAL ASSESSMENT

Next steps...



«Carta fisica del suolo di Roma nei primi tempi della fondazione di questa città» - Giovanni Battista Brocchi 1820



Reconstructed «geological modified surface» - SITAR 2023

- re-classification of other core-samples data in order to obtain a data homogeneous distribution
- evaluation of urban-blocks construction impact between late XIXth and early XXth century
- full reconstruction and analysis of natural events (river floods, earthquakes etc.)
- creating automatic tools for proper user-interaction inside the Sitar platform
- and more...

The background is a detailed, light-colored map of Rome, showing streets, buildings, and landmarks. A prominent white diagonal band runs from the top-left towards the bottom-right, creating a sense of depth and focus for the central text.

THANK YOU!