

5G-SITACOR

Inception Study for the deployment of 5G in the cross-border sections of the TEN-T Mediterranean and Baltic – Adriatic corridors between Italy and Slovenia

Agenda



Description of the Project



Croos Border Dimension



Needs and Objectives



Project Structure



Timetable



Project fiche



Project Contest

The study is a fundamental step in the 5G deployment of the TEN-T Mediterranean and Baltic – Adriatic corridors, especially cross-border sections, between Friuli Venezia Giulia Region (Italy) and the Republic of Slovenia, with a neutral, agnostic passive and active infrastructure dedicated to the development of digital services, in particular, with respect to the deployment of **safe, secure and sustainable high-performance infrastructure**, including Gigabit and 5G networks.

Partnership

Regione Autonoma
Friuli Venezia
Giulia
(Coordinator)

ANAS SPA
(Partner)

Družba za Autoceste
v Republiki
Sloveniji d.d. -
DARS
(Partner)

Telekom Slovenije
(Partner)

Retelit Digital
Services SPA
(Partner)

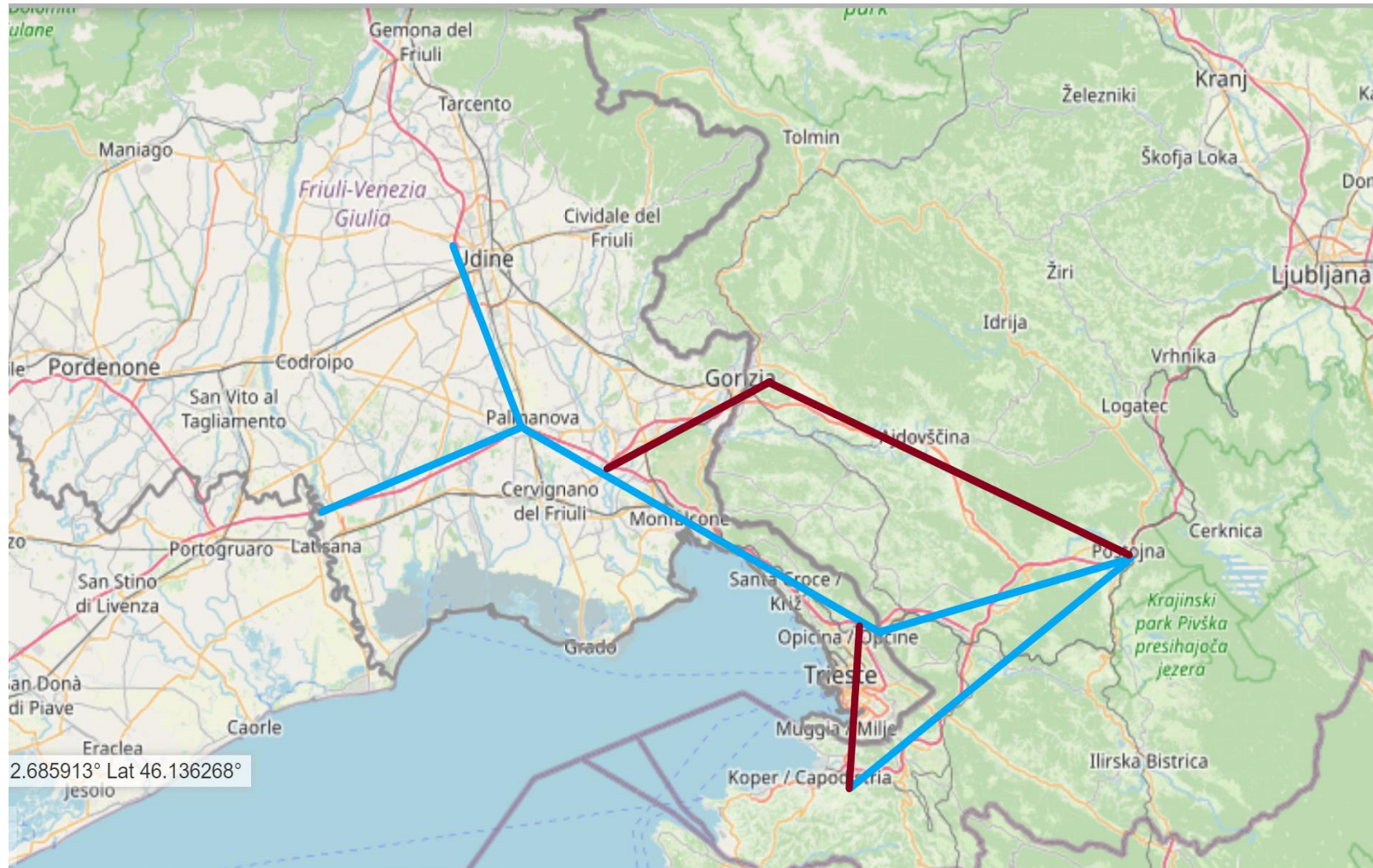
Luka Koper, Port
and Logistic
System, d.d.
(Partner)

Univerza v
Ljubljani (Partner)

Università degli
Studi di Trieste
(Partner)

Autovie
Venete/Autostrade
Altoadriatico
(Associate)

Location



In total 213 Km of the Mediterranean Corridor and of the Baltic-Adriatic Corridor (**BLUE LINE**)

62 Km of additional motorways as secondary path in case of critical events (**RED LINE**)

Project Corridor Paths	Italy [Km]	Slovenia [Km]	Road Manager (partner)
Adriatic - Baltic Corridor	27		
Udine Nord - Palmanova	27		Autovie/Altoadriatico
Mediterranean Corridor	102	84	
Ronchis (A4 FVG western border) - Sistiana	56		Autovie/Altoadriatico
Sistiana - Ferneti (eastern country border)	22		ANAS
Ferneti - Rabuiese (southern country border)	24		ANAS
Rabuiese - Koper		11	DARS
Ferneti - Divača (join on Koper Postojna path)		16	DARS
Koper - Postojna		57	DARS
Additional	18	44	
Villesse - Gorizia/Nova Gorica	18		Autovie/Altoadriatico
Nova Gorica - Razdrto (join on Koper - Postojna path)		44	DARS
Total Km	147	128	275

Needs

The project arises from the need to improve the coverage and quality of connectivity in the identified corridors, characterized by:

- I. Diversified territory with urban and uninhabited areas, mountains and tunnels.
- II. Heavy traffic on important Italian (A4, A23, A34, E55, E70) and Slovenian (A1, E61, H4, H5) roads.
- III. Presence of ports (Trieste and Koper) that connect passengers and goods with Italy, Slovenia and Central Europe.
- IV. Need to strengthen the interconnection between road and port infrastructures using the best available technology.

Advantages

- I. Greater road safety thanks to CAM (Connected and Automated Mobility) technology).
- II. Better management of traffic and goods flows.
- III. Development of innovative digital services for companies, cities and highways.
- IV. Greater competitiveness and attractiveness of the area for investments and tourism.

Main Goal



The objective of the study is to assess and define the **best modalities** to apply the potential of 5G network technology (higher transmission speed, lower latency and higher reliability) to **different use cases** for the development of linear infrastructures such as Connected and Automated Mobility (CAM) and road safety in the identified areas.

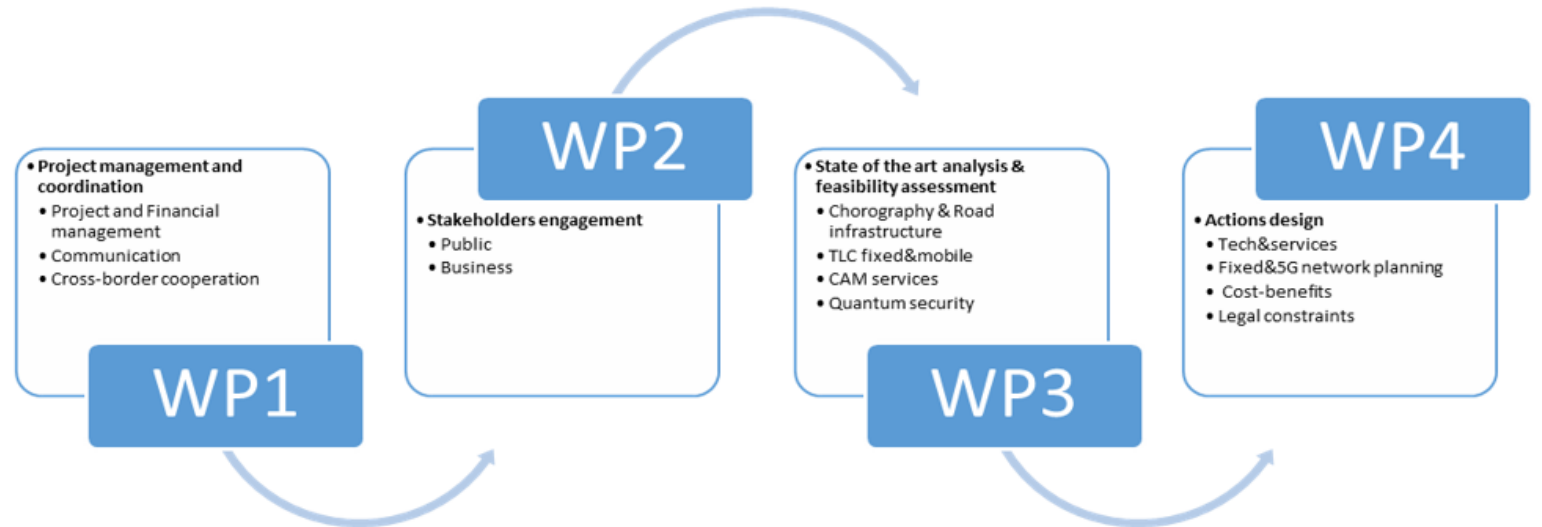
Expected outcomes



- i. the provision of a **typology model assessing** the comprehensive resources in terms of investment and time required to achieve the complete coverage of the areas of intervention where Baltic-Adriatic and Mediterranean Corridors run;
- ii. the design and **implementation plan** introductory to the deployment of advanced digital infrastructures in the concerned corridor sections;
- iii. the identification of the **main constraints** (i.e. technical, legal, regulatory and commercial) as well as the **synergies** effectively available;
- iv. the definition of the features and benefits of 5G (high transmission speed, low latency and high reliability) applied to numerous use cases while taking into consideration the constraints for the development of linear infrastructures such as Connected and Automated Mobility (CAM) and road safety. The main focus will be the use of **5G to ensure quality** in the Internet of Things (IoT) sector applied to the use cases, as well as to assure **quantum-based secure communication** and data transfer;



WORK PLAN



5G-SITACOR TIMETABLE

1 period = 1 week

ACTIVITY	TITLE	STARTING PERIOD	DURATION	Jan	Feb	Mar	Apr	May	Jun	Jul																		
				M1			M2			M3			M4			M5			M6									
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
WP1	P.M. and communication	1	24	[Blue shaded area]																								
T1.1	Project management	1	24	MS1 ✓			[Hatched area]																					D1.2
T1.2	Financial management	1	24	[Hatched area]																								
T1.3	Communication	1	4	D1.1			[Hatched area]																					
T1.4	Institutional cross-border cooperation	1	12	[Hatched area]																								
T1.5	Integration of 5G with edge cloud and federated cloud facilities	1	8	MS5 ✓								[Hatched area]																
WP2	Stakeholders engagement	1	24	[Blue shaded area]																								
T2.1	Public stakeholder consultation	1	24	MS3 ✓			[Hatched area]																					
T2.2	Business stakeholder consultation	1	24	MS4 ✓			[Hatched area]																					
WP3	State-of-the-art analysis & use cases	1	12	[Blue shaded area]																								
T3.1	Assessment of chorography&co	1	12	[Hatched area]												MS6 D3.1												
T3.2	Assessment of terrestrial fixed-line&co	1	12	[Hatched area]												MS7 D3.2												
T3.3	Assessment of CAM services	1	12	[Hatched area]												MS8 D3.3												
T3.4	Identification of classical and quantum security solutions for CAM	1	12	[Hatched area]												MS9 D3.4												
WP4	Actions design	9	18	[Blue shaded area]																								
T4.1	Technologies & services analysis	5	20	[Hatched area]				[Hatched area]																D4.1				
T4.2	Fixed and 5G Network Planning	5	20	[Hatched area]				MS10																D4.2				
T4.3	Timeline and Cost-benefit analysis	15	10	[Hatched area]										[Hatched area]														D4.3
T4.4	Legal constraints assessment	5	20	[Hatched area]				[Hatched area]																D4.4				

Project fiche



Length of corridor receiving CEF funding: 275 Km highway (213 Km TEN-T + 62 Km secondary paths)



Spectrum 5G bands will be considered in the study: the licensed bands as follows N7 (2600 MHz), N28 (700 MHz) and N78 (3500 MHz), and unlicensed (5900 MHz) only for V2V



Targeted services QoS: work in progress. For example latencies higher than 50ms data throughput for vehicle higher than 10Mbps per vehicle (averaged)...



Use cases enabled: work in progress. For example collision avoidance, cooperative speed adaptation, quantum security aspects, ...



Total costs: 685.484 euro



Grant Amount: 342.742 euro



Project start: Jan 15th 2024



Project end: Jul 14th 2024