

FABRIC Charging Solutions: An Overview

DEVELOPMENTS
AREA

Develop and assess innovative dynamic charging solutions from technological point of view for dynamic on-road charging

Overview /introduction

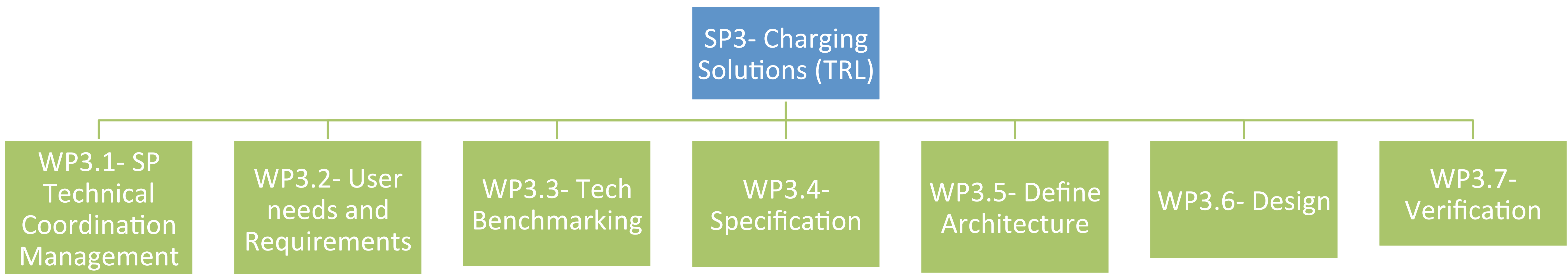
The FABRIC project developed a number of charging solutions to be demonstrated and tested through track trials. The core objectives were to develop, using a bottom-up approach, innovative and relevant complete dynamic charging solutions based on the needs of users. From initial user requirements, charging solution specifications, architecture and designs were developed, and verifications tests were performed on prototypes built using the specifications and designs.

Partners involved

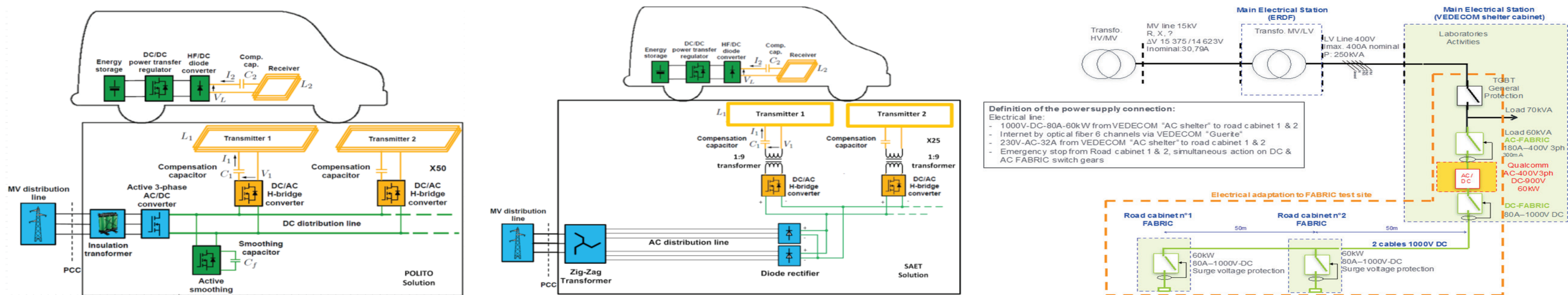


Objectives and methodology

- Identify user needs and requirements;
- Identify developments necessary to ensure current charging solution prototypes to meet the requirements;
- Design and develop on-road and vehicle charging solutions capable of meeting the requirements;
- Define and perform verification testing.



Charging solution development and verification testing activities



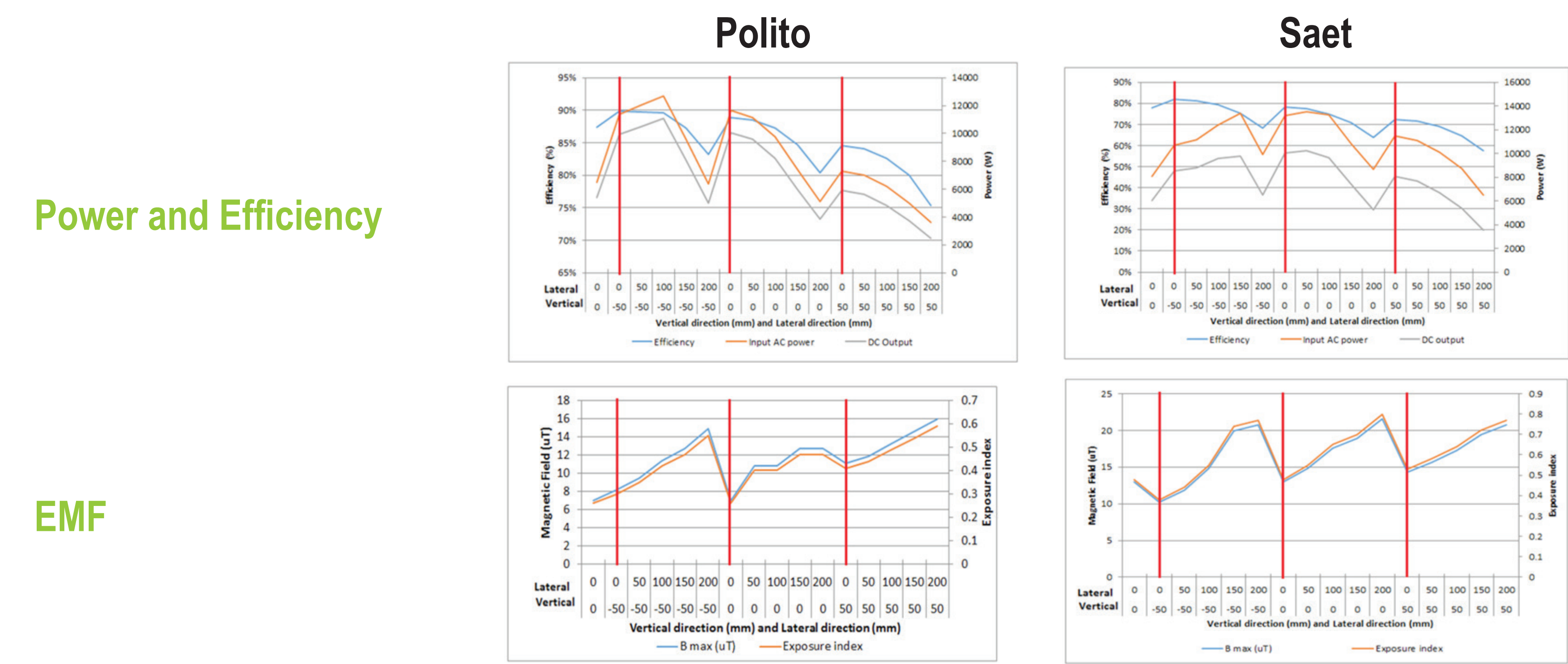
Parameter	Polito	Saet	Vedecom
Power (coil)	20 kW	20kW	50kW
Frequency	85kHz	85kHz	85kHz
Number of coils	50	25	64
Length of coils	1.5m	1.5m	1.75m
Width of coil	0.5m	0.5m	0.412m
Road length	100m	50m	100m
Number of segments	1	1	2

Verification Methodology:

Each verification test applied to five test conditions, where each test condition defines the horizontal or vertical position of the secondary coil relative to the centre of the primary coil. The detailed raw data was captured for all solution providers (POLITO, SAET, VEDECOM) for all test conditions. The test conditions were:

A) Ideal alignment; B) Perpendicular misalignment of 50 mm intervals, until a maximum of ± 200 mm; C) Air gap misalignment ± 50 mm around the nominal air gap; D) Power transfer at 60% of nominal power; E) Moving secondary.

Achievements and Main outcomes



Three prototype solutions developed, tested and verified:

- Polito/SAET solution in Italy;
- VEDECOM/Qualcomm solution in France (Note: verification results under NDA);

Dynamic power transfer achieved

EMF within legal limits

Final Event & Demonstration | 21-22 June 2018 Italy

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Consortium

Project facts

Duration: 48 M
DG / Unit: Research and Innovation
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Funding: 6.5 M€

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