

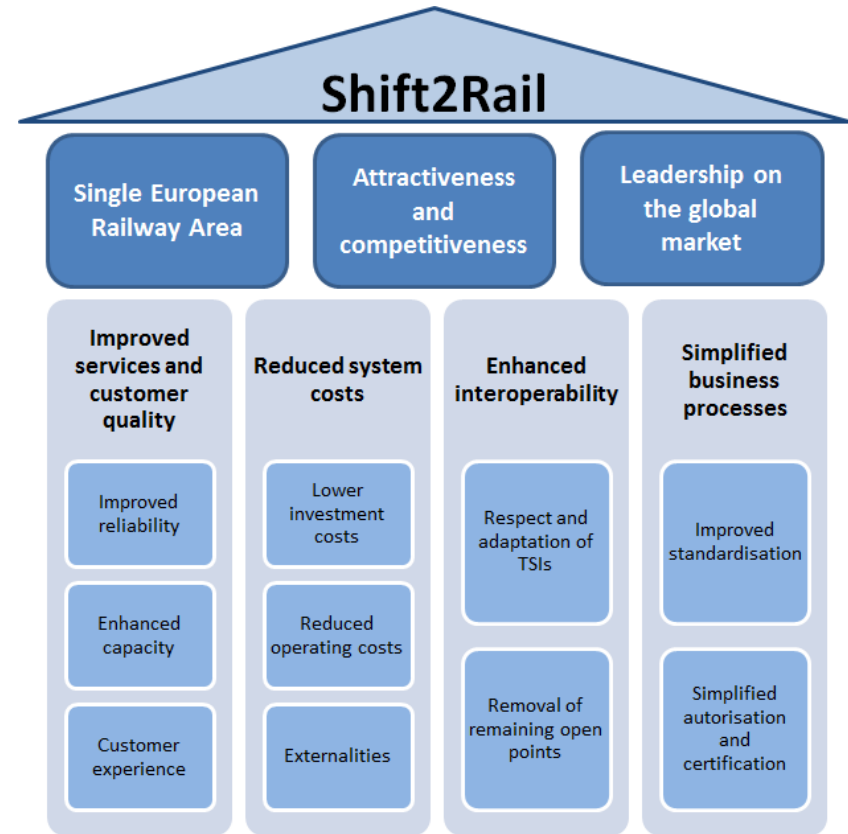


S2R @ Platform of Rail Infrastructure Managers in Europe

carlo m borghini
Executive Director S2R JU
17 November 2016



- **Single European Railway Area**
- **attractiveness and competitiveness of the European railway system**
- **leadership on the global market**



what is S2R (1)

- a **public-private partnership**
- established in June 2014
- a **platform for the rail sector** as a whole to work together to drive innovation in the years to come ... 2024
- play a **major role** in rail-related research and innovation
- ensure **coordination among projects** and providing all stakeholders with relevant and available information on projects funded across Europe
- **manage all rail- focused research and innovation actions co-funded by the Union**
- reach autonomy **in May 2016**

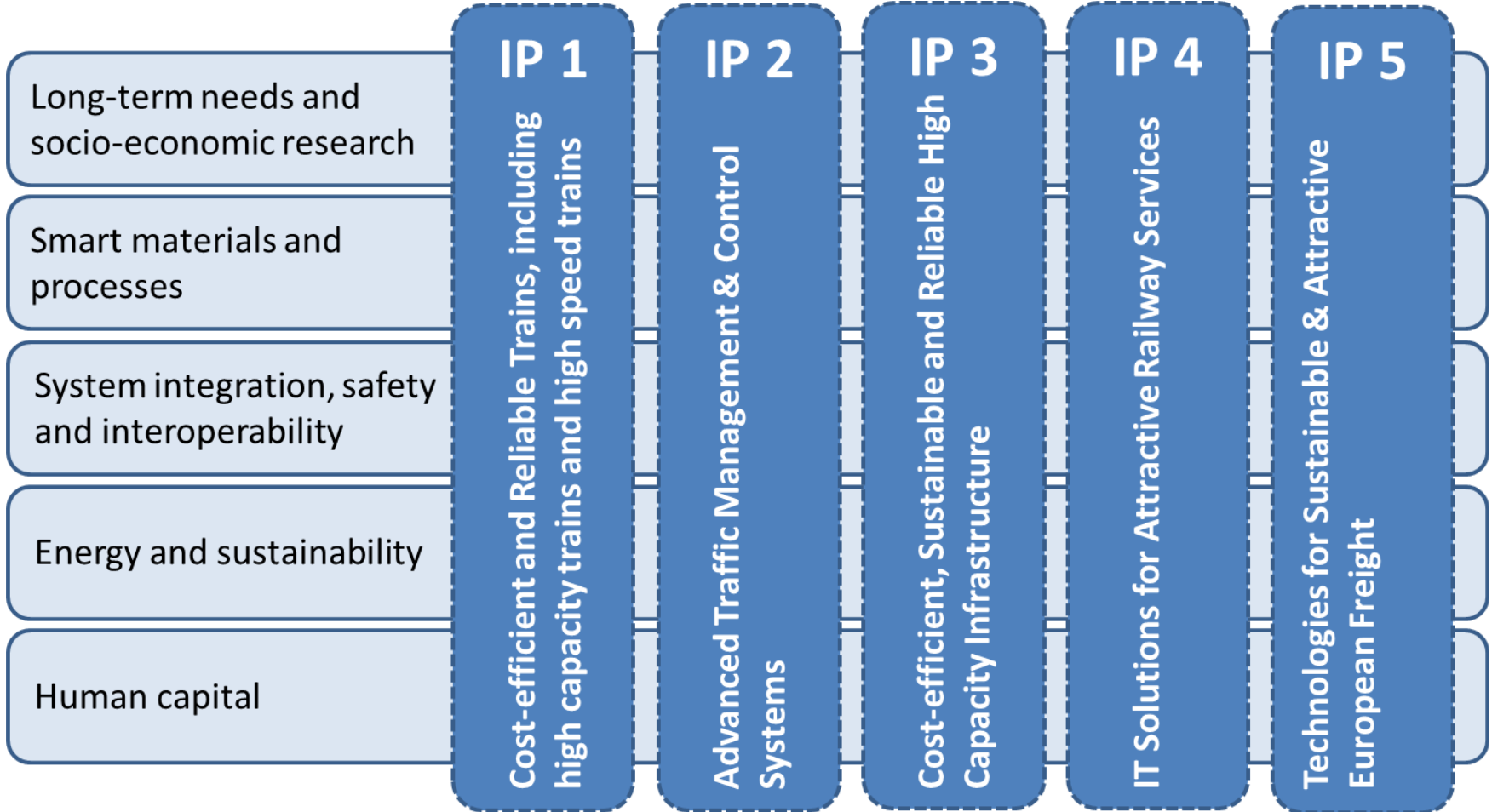
to achieve

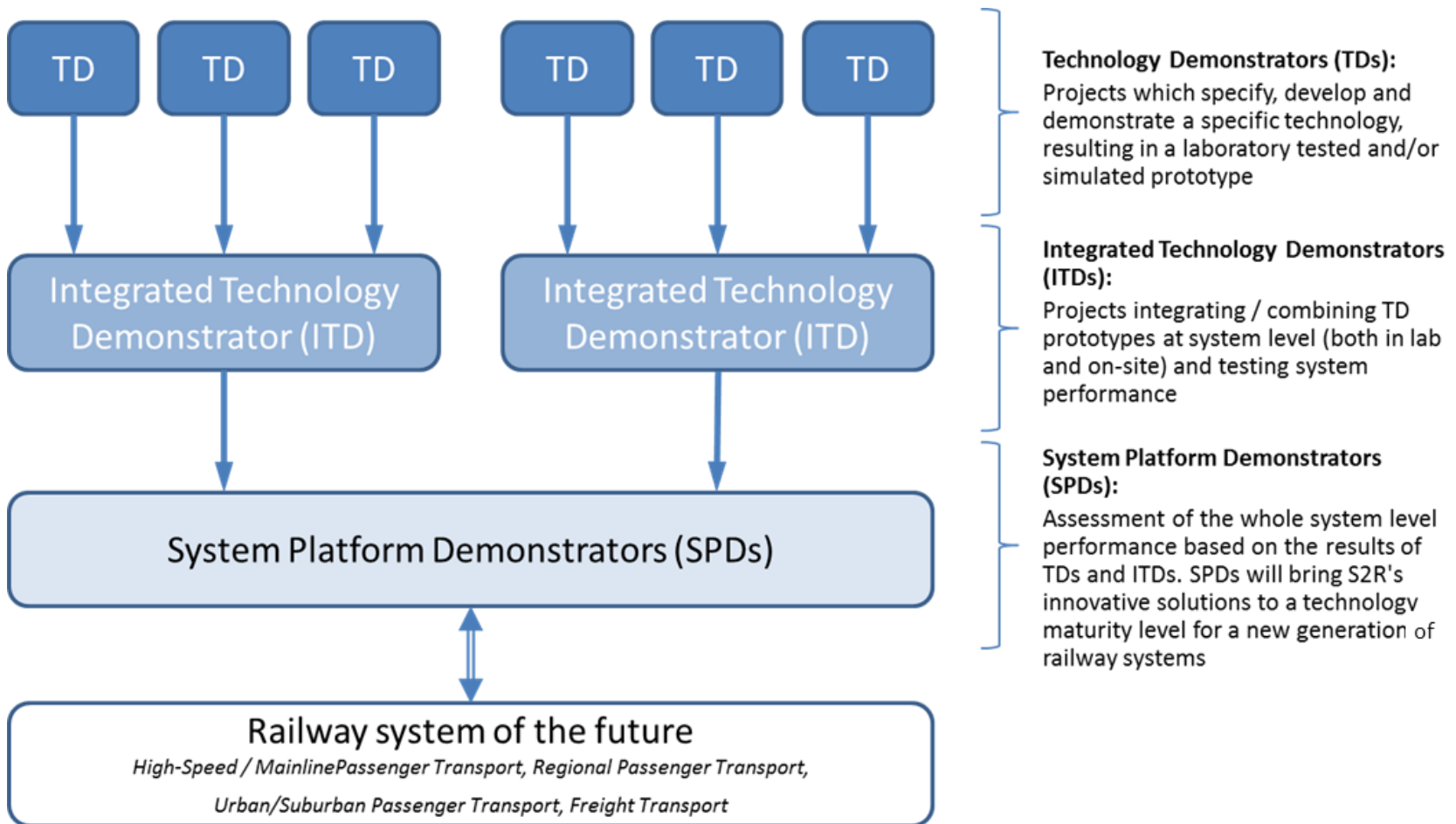
- a **50 % reduction** of the **life-cycle cost of the railway transport system** (i.e. costs of building, operating, maintaining and renewing infrastructure and rolling stock)
- a **100 % increase** in the **capacity of the railway transport system**
- a **50 % increase** in the **reliability and punctuality** of rail services (measured as a 50 % decrease in unreliability and late arrivals)

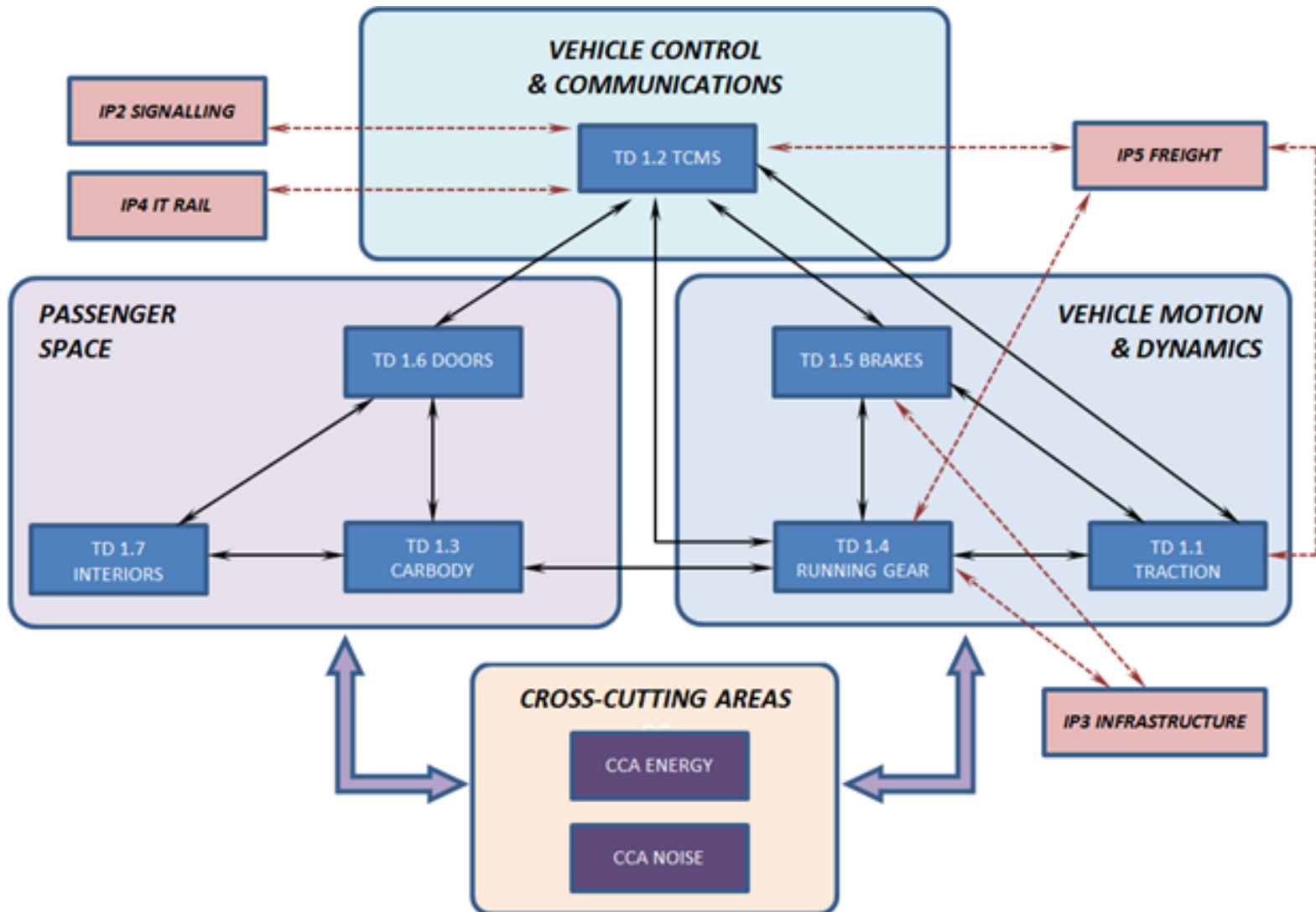
a new approach to R&I

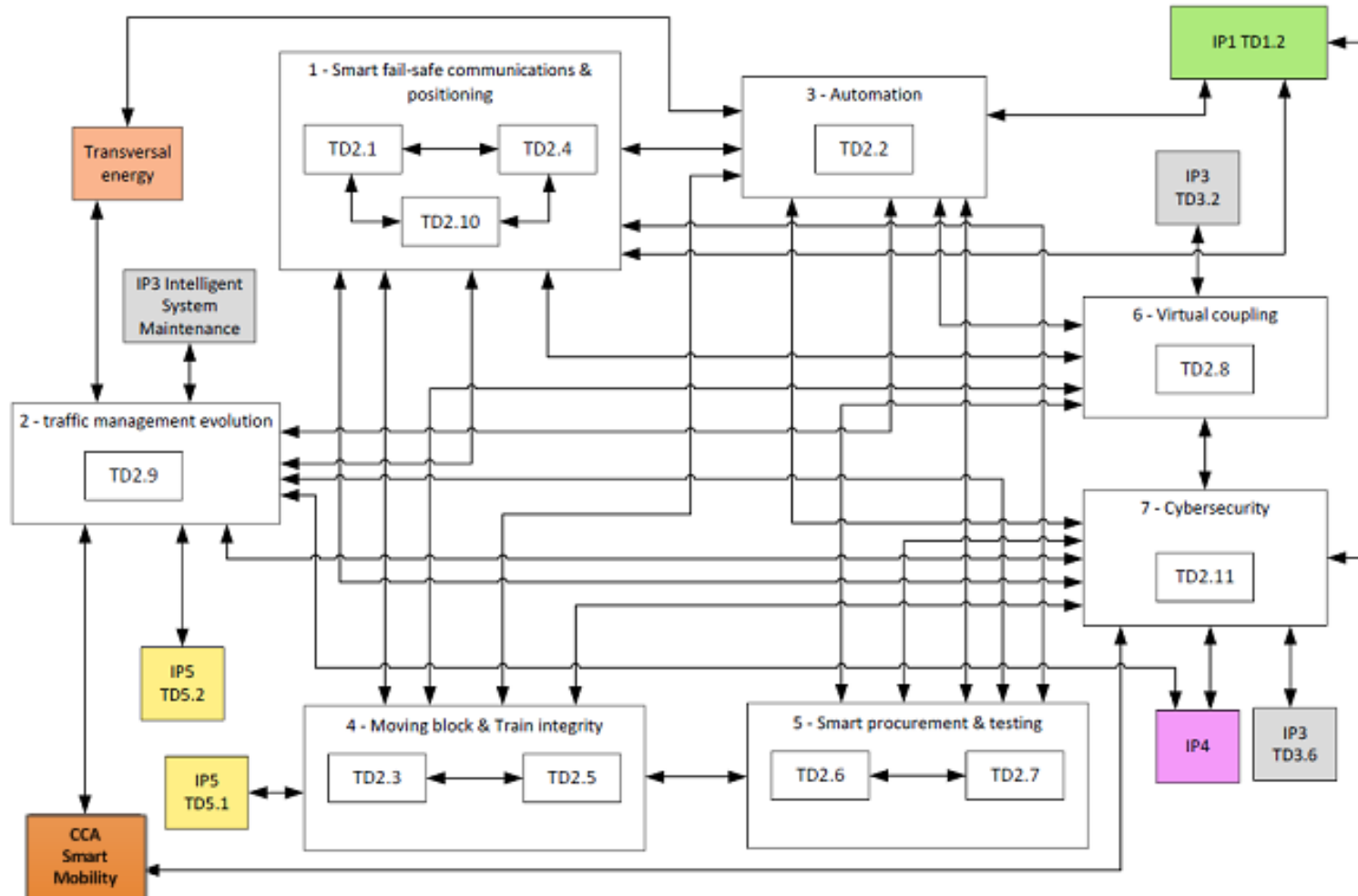


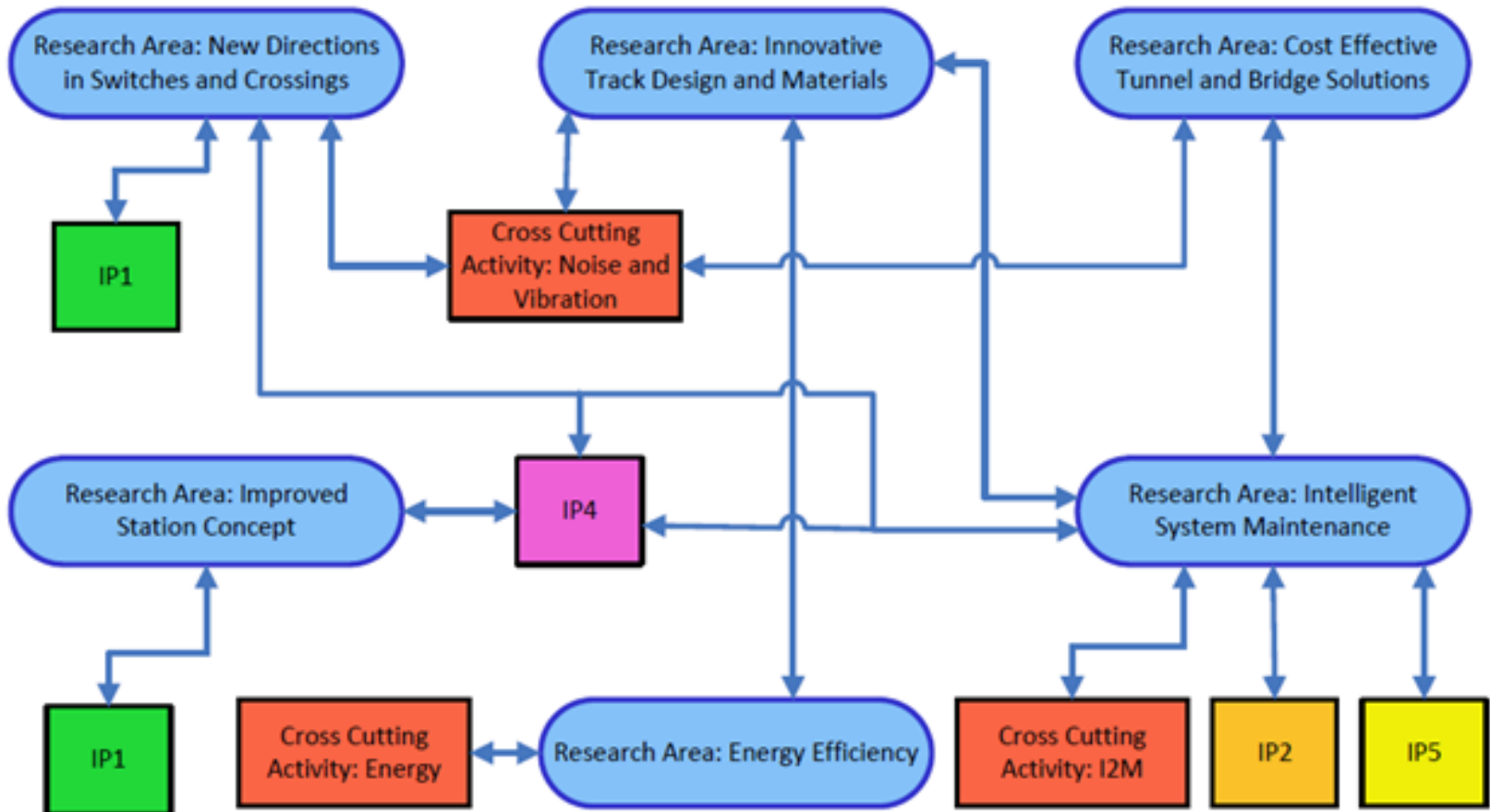
Innovation Programmes

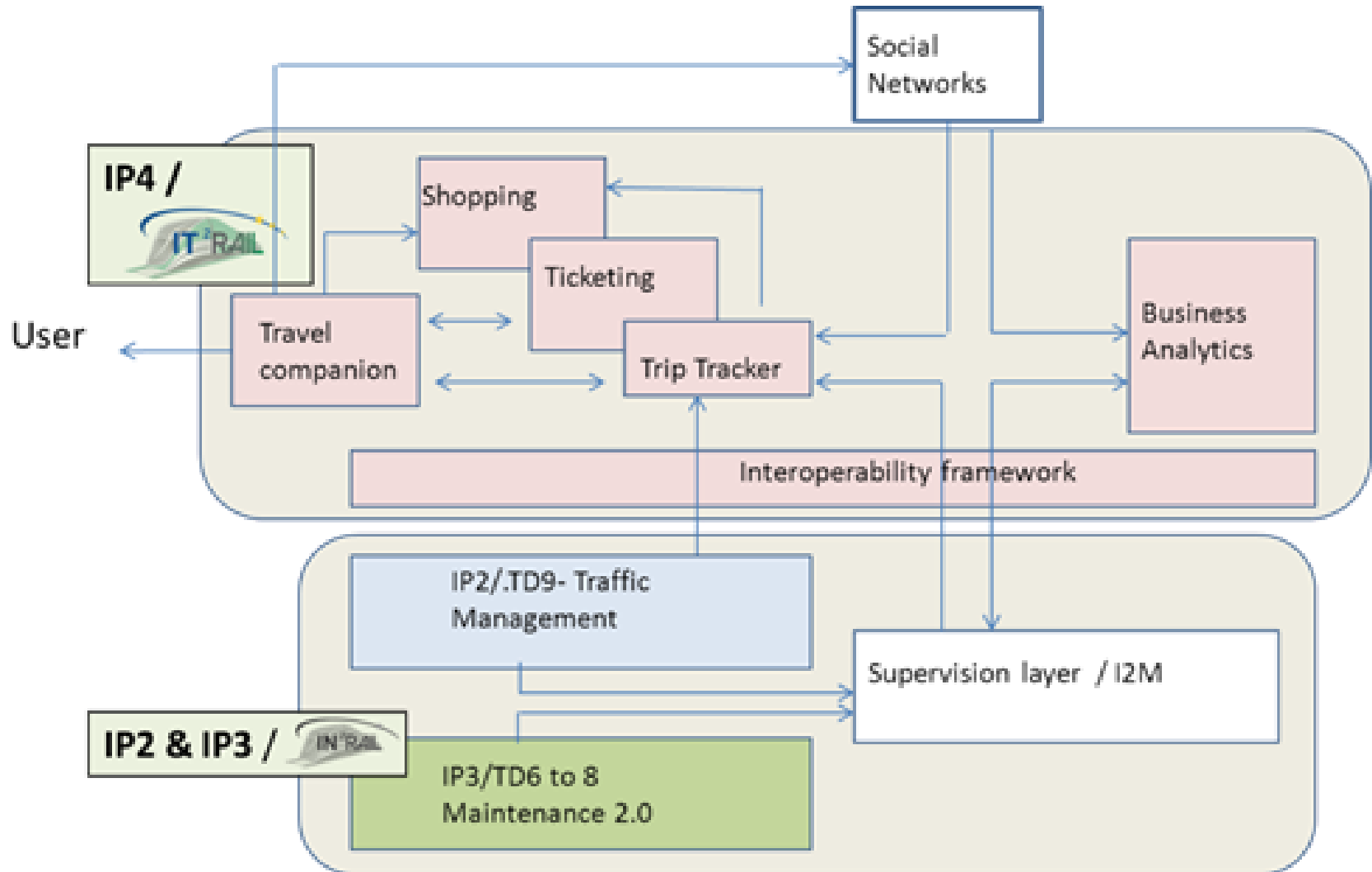




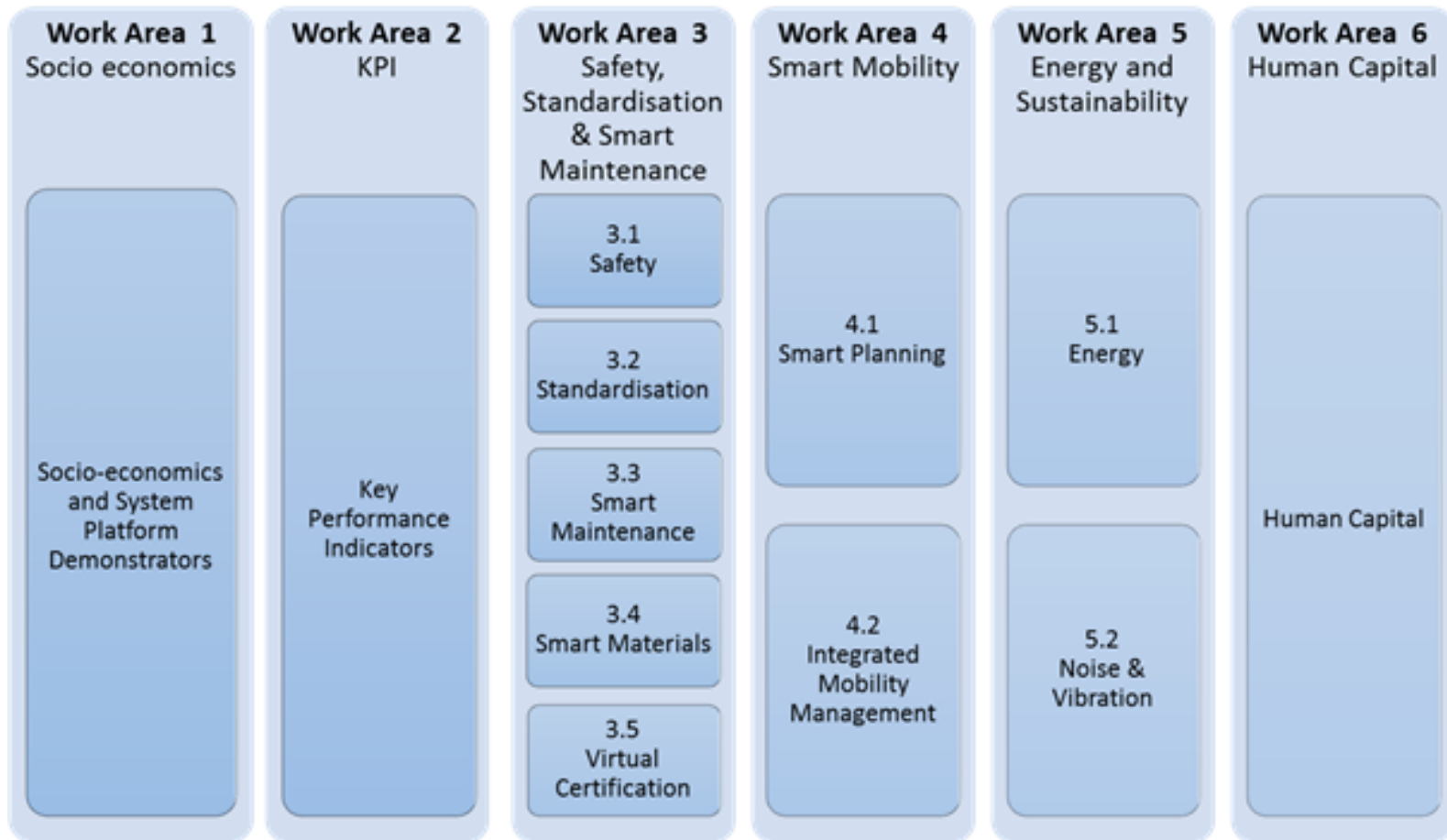








- TD5.0 – Business analytics and implementation strategies
- TD5.1 – Freight electrification, brakes and telematics
- TD5.2 – Access and Operation
- TD5.3 - Wagon design
- TD5.4 - Novel Terminal, Hubs, Marshalling Yards, Sidings
- TD5.5 – New Freight Propulsion Concepts
- TD5.6 - Autonomous train operation



an open organization

- **8 Founding Members** having committed at least EUR 30 million for the duration of Shift2Rail, to secure substantial industry co-funding from the outset
- **19 Associated Members** selected as a result of a call representing a broad range of actors from the entire rail value chain and from other innovative sectors, including SMEs, research organisations, universities, etc.
- **at least 30%** of the Union contribution through **calls** for non-JU members

BOMBARDIER
the evolution of mobility

DIGINEXT
be visionary

CFW

CAF

SmartRaCon

Ansaldo STS
A Hitachi Group Company

PRAMA

AMADEUS

EUROC
European Rail Operating Community Consortium

SIEMENS

NetworkRail

DB

ALSTOM

AERFITEC

SMART DEMAN

Faiveley
TRANSPORT

THALES

SwiTRACK'EN
Switch TRACK and ENergy

kapsch >>>

TRAFIKVERKET

Talgo

EUROPEAN UNION

SHIFT²RAIL
virtual vehicle austria consortium

HaCon
Traffic • Software • Service

indra

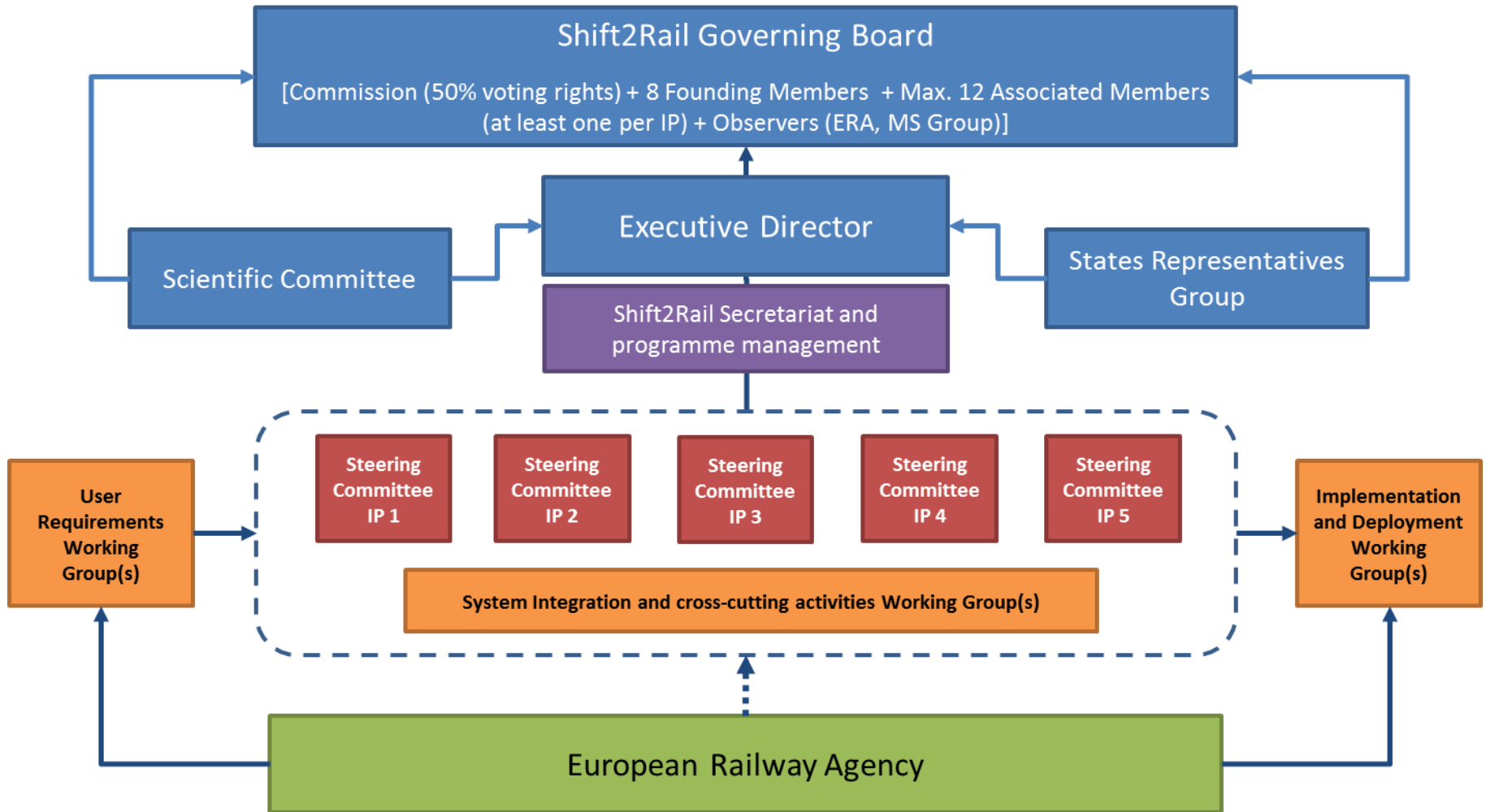
SKF

MERMEC

KNORR-BREMSE

Shift2Rail

European Union	
8 Founding Members	Alstom, Ansaldo STS, Bombardier, Construcciones y Auxiliar de Ferrocarriles (CAF), Siemens, Thales and infrastructure managers Trafikverket and Network Rail
12 Associated Members (single legal entities)	Amadeus IT Group, AZD Praha, Deutsche Bahn, DIGINEXT, Faiveley Transport, HaCon Ingenieurgesellschaft, INDRA Sistemas, Kapsch CarrierCom, Knorr-Bremse, MER MEC, SNCF Mobilités, Patentes Talgo
7 Associated Members (consortia)	<ul style="list-style-type: none"> • AERFITEC (AERNNOVA Aerospace, FIDAMC, Fundacion TECNALIA) • Competitive Freight Wagon (Contraffric, DLR, Waggonbau Niesky, Centro de Estudios e Investigaciones Técnicas (CEIT), Verband der Bahnindustrie in Deutschland) • EUropean Rail Operating community (Infraestruturas de Portugal, Association of Train Operating Companies, BLS, CP, Finnish Transport Agency, ÖBB-Infrastruktur, Polskie Koleje Państwowe, PRORAIL , Rede Ferroviária Nacional, Schweizerische Bundesbahnen, Slovenske železnice, Türkiye Cumhuriyeti Devlet Demiryollari) • Smart DeMain (Strukton Rail, ACCIONA Infraestructuras, DLR, Fraunhofer, CEMOSA) • SmartRaCon (DLR, CEIT, Fondation Railenium, Nottingham Scientific Ltd) • Swi'Tracken (Fondation Railenium, Universidade Do Porto, Universidad Del Pais Vasco, Universidade Do Minho, TATASTEEL, VOSSLOH-COGIFER, Institut für Zukunftsstudien und Technologiebewertung, EGIS RAIL, Groupe EUROTUNNEL, TRONICO ALCEN) • Virtual Vehicle Austria consortium+ (Kompetenzzentrum, FCP Firtsch, Getzner Werkstoffe, Kirchdorfer Fertigteilverteilung, Plasser&Theurer, Voestalpine Schienen, Voestalpine VAE, Wiener Linien, AVL List, PJM Messtechnik, TATRAVAGONKA, AC2T research, Materials Center Leoben Forschung)



- is a collaborative long-term investment planning document
- translates strategic R&I priorities for the Railway sector – as per S2R Master Plan - into **concrete R&I activities, milestones and deliverables**
- contains the description of R&I activities worth an estimated **value of about EUR 777 million**
- **is a living document** (ongoing “maintenance”)
- enables the preparation of result-oriented **Annual Work Plans** and **Calls for Proposals**
- **grants awarded** for the actions(Projects) should aim to implement part(s) of the MAAP

structure of the MAAP

Rationale and narrative

GENERAL INTRODUCTION

PART 1:

SHIFT2RAIL: PROMOTING THE MODAL SHIFT
AND THE COMPETITIVENESS OF THE
EUROPEAN RAILWAY INDUSTRY

PART 2:

SHIFT2RAIL PROGRAMME SCOPE AND
STRUCTURE

Technical description

PART 3: DETAILED MULTIANNUAL ACTION PLAN PER IP/CCA

IP1

IP2

IP3

IP4

IP5

CCA

IPs 777 M

IKAA
163M

IP1
225M

IP2
195M

IP3
153M

IP4
86M

IP5
83M

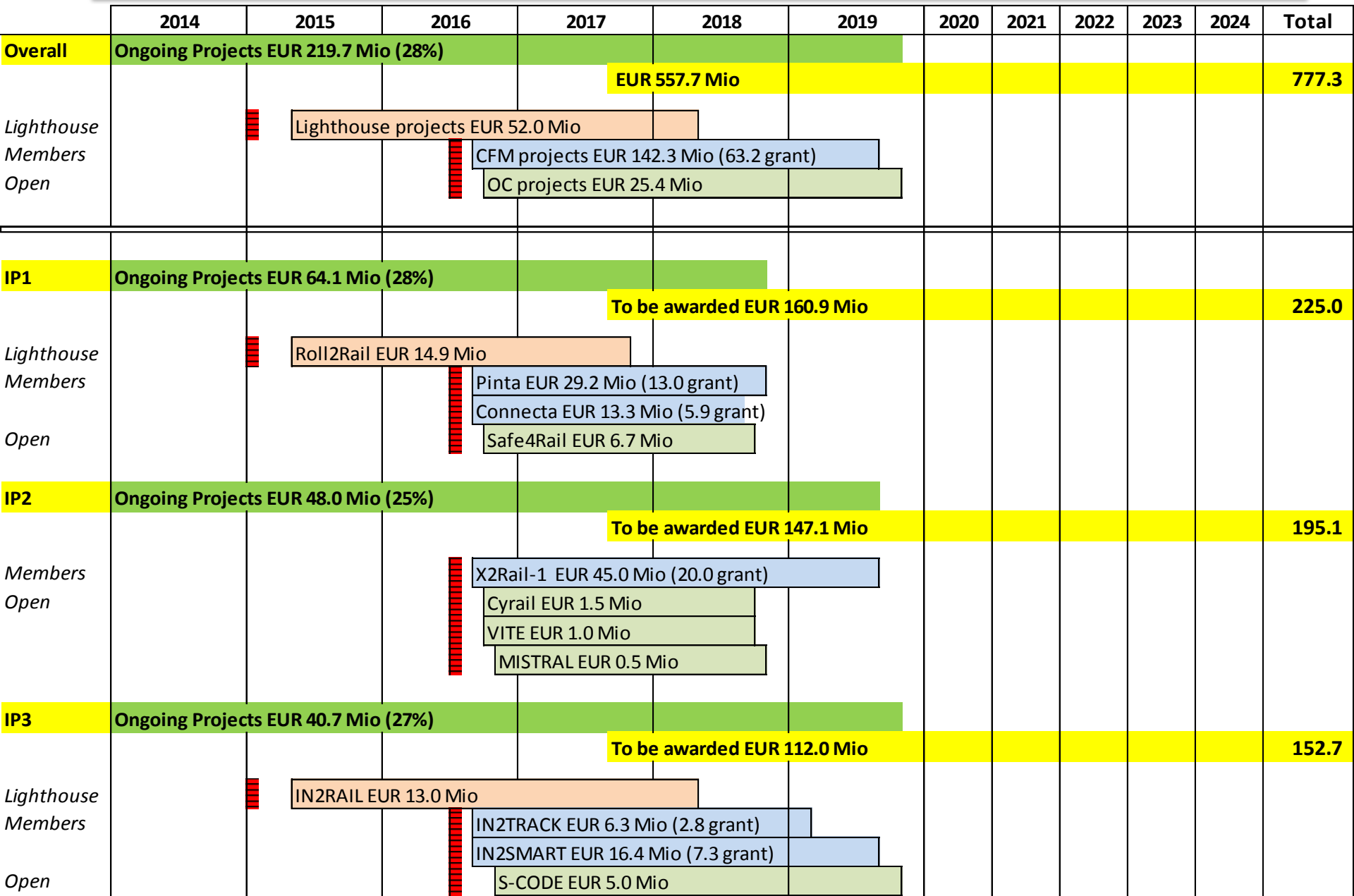
CCA
35M

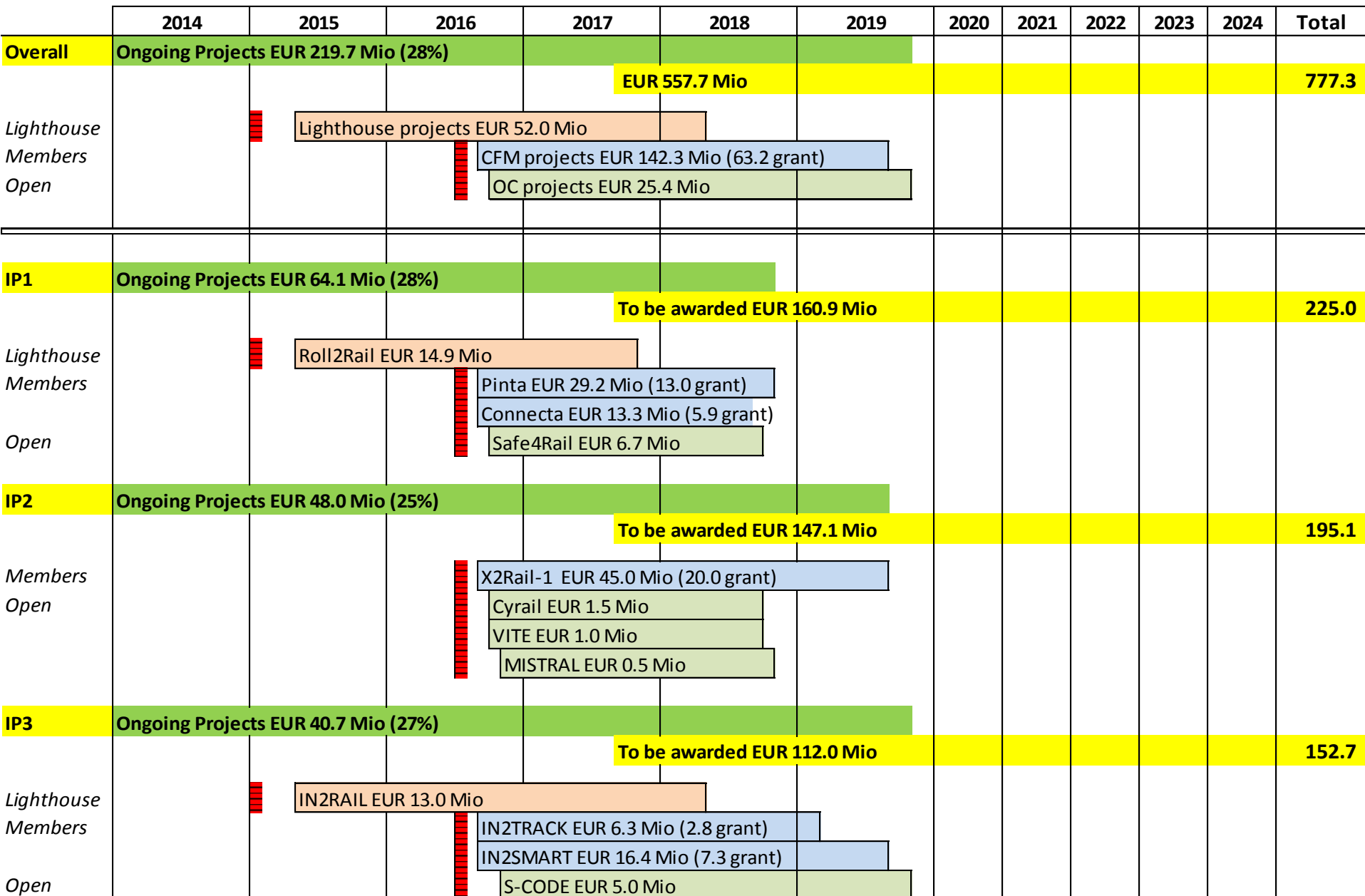
Other
27M

Programme 967M

S2R (H2020)
Co-Fin 450M

Railway Sector Net
Contribution 517M





- **Lighthouse**, ongoing 4 Projects & 52 Mio EUR
- **Members' R&I activities**, 1 Sept 16, 13 Projects & 142 Mio EUR
- **OC R&I activities**, 1 Nov 16, 14 Projects & 25 Mio EUR
- 1st meeting of **System Integration Working Group**
- **MAAP** Top Down review
- **AWP 2017** approved and published

Open Call 2017

Million of EUR	Total	Members only	Open to non-Members
Value of the Call for Proposals R&I	112.4	92.9	19.5
<i>of which:</i>			
<i>S2R Maximum Co-funding</i>	60.8	41.3	19.5
<i>In-Kind Contribution</i>	51.6	51.6	0
No of topics	17	7	10
Value of Call for tender (pantograph overhead contact line interaction)	0.7	0	0.7

Call for Proposals

- Publication Date: 10 November 2016 (no submission before 10 Jan 2017)
- **Deadline for submission: 30 March 2017**
- Planned start of activities: 1 September 2017

Topic number - IP	Topic name	Expected TRL	Type of action	Indicative S2R Co-funding EUR	Complementarity
S2R-OC-IP1-01-2017	Innovative materials & modular design for rolling stock applications	4/5	RIA	3 500 000	S2R-CFM-IP1-01-2017
S2R-OC-IP1-02-2017	Tools, methodologies and technological development of the next generation of Running Gear	2	RIA	2 800 000	S2R-CFM-IP1-01-2017 S2R-CFM-CCA-02-2015
S2R-OC-IP2-01-2017	Operational conditions of the signalling and automation systems; signalling system hazard analysis and GNSS SIS characterization along with Formal Method application in railway field	3	RIA	1 800 000	S2R-CFM-IP2-01-2017 S2R-CFM-IP2-01-2015

Topic number - IP	Topic name	Expected TRL	Type of action	Indicative S2R Co-funding EUR	Complementarity
S2R-OC-IP2-02-2017	Energy harvesting methodologies for trackside and on-board signalling and communication devices. Adaptation of already existing technologies for developing a purely on-board Train Integrity	4	RIA	1 700 000	S2R-CFM-IP2-01-2017 S2R-CFM-IP2-01-2015
S2R-OC-IP3-01-2017	Smart metering and asset management of railway systems	5	RIA	2 200 000	S2R-CFM-IP3-01-2017 S2R-CFM-IP3-02-2016
S2R-OC-IP3-02-2017	Future stations and accessibility (IP1 and IP3)	3	RIA	1 200 000	S2R-CFM-IP3-01-2017 S2R-CFM-IP1-01-2017

Topic number - IP	Topic name	Expected TRL	Type of action	Indicative S2R Co-funding EUR	Complementarity
S2R-OC-IP3-03-2017	Satellite and autonomous monitoring systems' solution	5	RIA	600 000	S2R-CFM-IP3-02-2016
S2R-OC-IP4-01-2017	Smart technologies for trip tracking and improved travel companion and trip tracking	4/5	RIA	3 500 000	S2R-CFM-IP4-01-2017 S2R-CFM-IP4-02-2017 S2R-CFM-IP4-01-2015 S2R-CFM-IP4-02-2015
S2R-OC-IP5-01-2017	Real-time yard and network management	4	RIA	1 500 000	S2R-CFM-IP5-01-2017 S2R-CFM-IP5-02-2015 S2R-OC-IP5-01-2015
S2R-OC-CCA-01-2017	Smart maintenance and human capital	4	RIA	700 000	S2R-CFM-CCA-01-2017 S2R-CFM-IP4-01-2015 S2R-CFM-IP4-02-2015
TOTAL				19 500 000	

THANK YOU



Contact for
Project Calls:
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uropa.eu

Imagine, we make it ...

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