



Project Coordinators Info Day
CFM & OC 2017
November 14th 2017

1 - Introduction



Projects 2017 overview CFM

| TOPIC | ACRONYM | COORDINATOR | COORDINATORS' CONTACTS | STARTING DATE | END DATE | PROGRAMME MANAGER | COMPLEMENTARITY |
|---------------------|------------|---------------------------------|--|---------------|------------|---------------------------------|-----------------|
| S2R-CFM-CCA-01-2017 | IMPACT-2 | Trafikverket | jan.bergstrand@trafikverket.se | 01/09/2017 | 31/08/2022 | Judit Sandor | SMaRTE |
| | | | | | | | IMPACT-1 |
| | | | | | | | FINE 1 |
| | | | | | | | PLASA |
| S2R-CFM-IP1-01-2017 | PIVOT | Bombardier Transportation | paul.boettcher@rail.bombardier.com | 01/09/2017 | 30/09/2019 | Alexandra Gurau | IN2SMART |
| | | | | | | | Mat4Rail |
| | | | | | | | RUN2Rail |
| | | | | | | | FR8HUB |
| S2R-CFM-IP2-01-2017 | X2RAIL-2 | Ansaldo STS | salvatore.sabina@ansaldo-sts.com | 01/09/2017 | 31/08/2020 | Lea Paties | IN2STEMPO |
| | | | | | | | FAIR Stations |
| | | | | | | | PINTA |
| | | | | | | | CONNECTA |
| S2R-CFM-IP3-01-2017 | IN2STEMPO | Network Rail Infrastructure LTD | Eleanor.Simmons@networkrail.co.uk | 01/09/2017 | 31/08/2022 | Georgios Patris | FINE 1 |
| | | | | | | | ASTRail |
| | | | | | | | ETALON |
| | | | | | | | FR8HUB |
| S2R-CFM-IP4-01-2017 | CONNECTIVE | INDRA Sistemas SA | lmerle@indra.es | 01/09/2017 | 30/06/2022 | François Lienard / Lucas Garvia | X2Rail-1 |
| | | | | | | | IN2SMART |
| | | | | | | | ARCC |
| | | | | | | | IN2DREAMS |
| S2R-CFM-IP4-02-2017 | COHESIVE | Thales Portugal | joao.mira@thalesgroup.com | 01/09/2017 | 30/06/2022 | François Lienard / Lucas Garvia | FAIR Stations |
| | | | | | | | PIVOT |
| | | | | | | | CO-ACTIVE |
| | | | | | | | My-TRAC |
| S2R-CFM-IP5-01-2017 | FR8HUB | Trafikverket | jan.bergstrand@trafikverket.se | 01/09/2017 | 31/08/2020 | Lucas Garvia | COHESIVE |
| | | | | | | | CO-ACTIVE |
| | | | | | | | ATTRACTIVE |
| | | | | | | | My-TRAC |
| | | | | | | | CONNECTIVE |
| | | | | | | | CO-ACTIVE |
| | | | | | | | ATTRACTIVE |
| | | | | | | | OPTIYARD |
| | | | | | | | PIVOT |
| | | | | | | | ARCC |
| | | | | | | | FFL4E |
| | | | | | | | FR8RAIL |



| TOPIC | ACRONYM | COORDINATOR | COORDINATORS' CONTACTS | STARTING DATE | END DATE | PROGRAMME MANAGER | COMPLEMENTARITY |
|--------------------|---------------|---------------------|--|---------------|------------|-------------------|-----------------|
| S2R-OC-CCA-01-2017 | SMaRTE | University of Leeds | Daniel Johnson d.h.johnson@its.leeds.ac.uk | 01/09/2017 | 31/08/2019 | Judit Sandor | IMPACT-2 |
| | | | | | | | CO-ACTIVE |
| | | | | | | | ATTRACTIVE |
| S2R-OC-IP1-01-2017 | Mat4Rail | Fundacion CIDETEC | Elena Jubete ejubete@cidetec.es | 01/10/2017 | 30/09/2019 | Alexandra Gurau | PIVOT |
| S2R-OC-IP1-02-2017 | RUN2Rail | UNIFE | Andrea Demadonna andrea.demadonna@unife.org | 01/09/2017 | 31/08/2019 | Alexandra Gurau | PIVOT |
| S2R-OC-IP2-01-2017 | ASTRail | ISMB | Riccardno Scopigno scopigno@ismb.it | 01/09/2017 | 31/08/2019 | Lea Paties | X2Rail-1 |
| S2R-OC-IP2-02-2017 | ETALON | UNIFE | Jose.BERTOLIN@unife.org | 01/09/2017 | 29/02/2020 | Lea Paties | X2Rail-2 |
| S2R-OC-IP3-01-2017 | IN2DREAMS | UNIFE | Andrea Demadonna andrea.demadonna@unife.org | 01/09/2017 | 31/08/2019 | Georgios Patris | IN2STEMPO |
| S2R-OC-IP3-02-2017 | FAIR Stations | STAM SRL | Umberto Battista u.battista@stamtech.com | 01/09/2017 | 31/08/2019 | Georgios Patris | PIVOT |
| S2R-OC-IP3-03-2017 | MOMIT | E-GEOS SPA | Elena Francioni elena.francioni@e-geos.it | 01/09/2017 | 31/08/2019 | Georgios Patris | IN2STEMPO |
| S2R-OC-IP4-01-2017 | My-TRAC | UPC | Josep Lluís Larriba Rey larri@ac.upc.edu | 01/09/2017 | 31/08/2020 | François Lienard | COHESIVE |
| S2R-OC-IP5-01-2017 | OPTIYARD | UIC | John Lutz lutz@uic.org | 01/10/2017 | 30/09/2019 | Lucas Garvia | CONNECTIVE |
| | | | | | | | CO-ACTIVE |
| | | | | | | | ATTRACTIVE |
| S2R-OC-IP5-01-2017 | OPTIYARD | UIC | John Lutz lutz@uic.org | 01/10/2017 | 30/09/2019 | Lucas Garvia | FR8HUB |
| | | | | | | | ARCC |

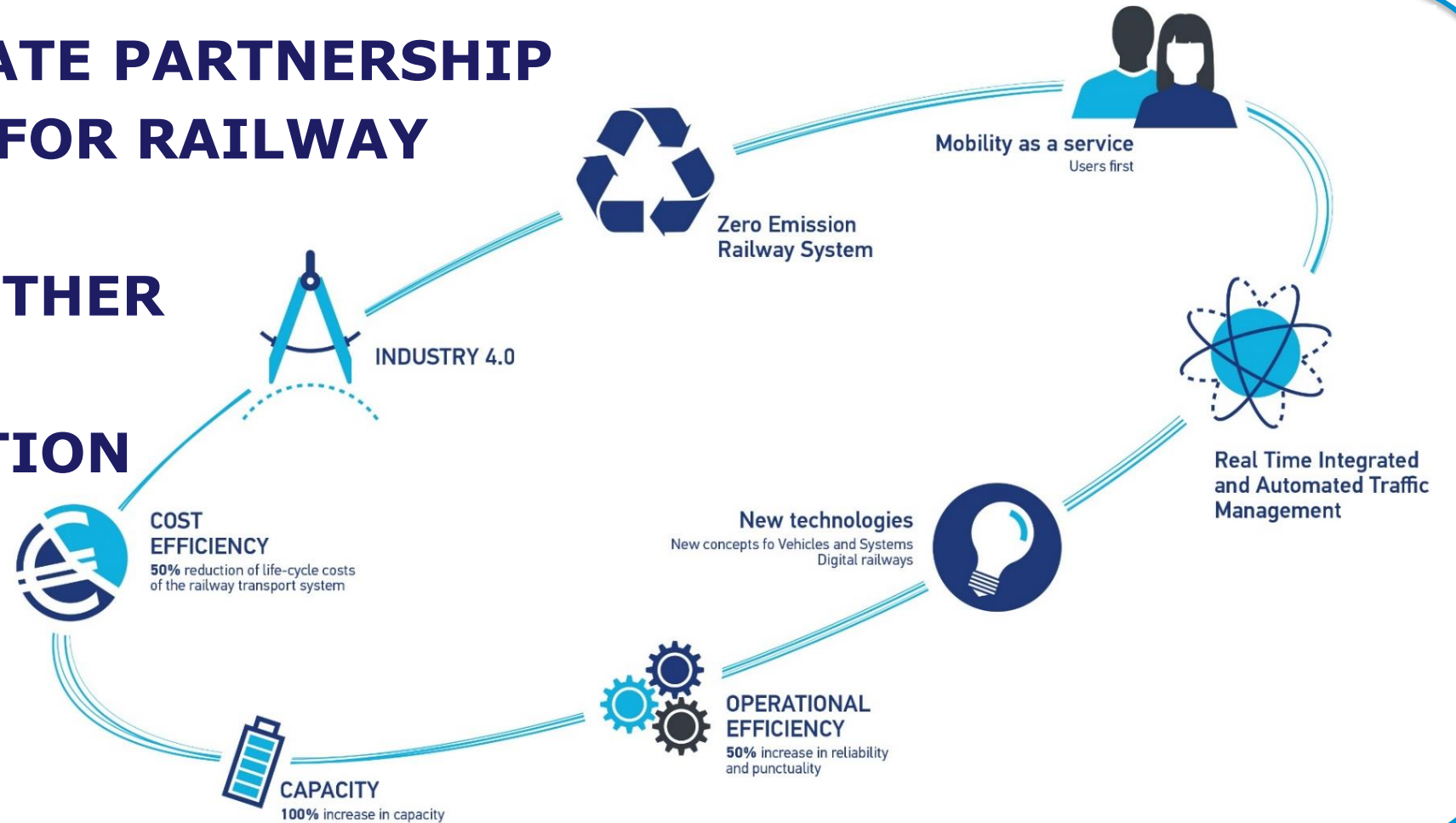


A PUBLIC-PRIVATE PARTNERSHIP R&I PLATFORM FOR RAILWAY

WORKING TOGETHER

DRIVE INNOVATION

BY 2024



...opening up new Capabilities coming from emerging technologies or concepts.

INTELLIGENT TRAINS

LOW COST RAILWAY

AUTOMATED TRAIN OPERATION

**GUARANTEED ASSET HEALTH
& AVAILABILITY**

STATION & "SMART" CITY MOBILITY

MORE VALUE FROM DATA

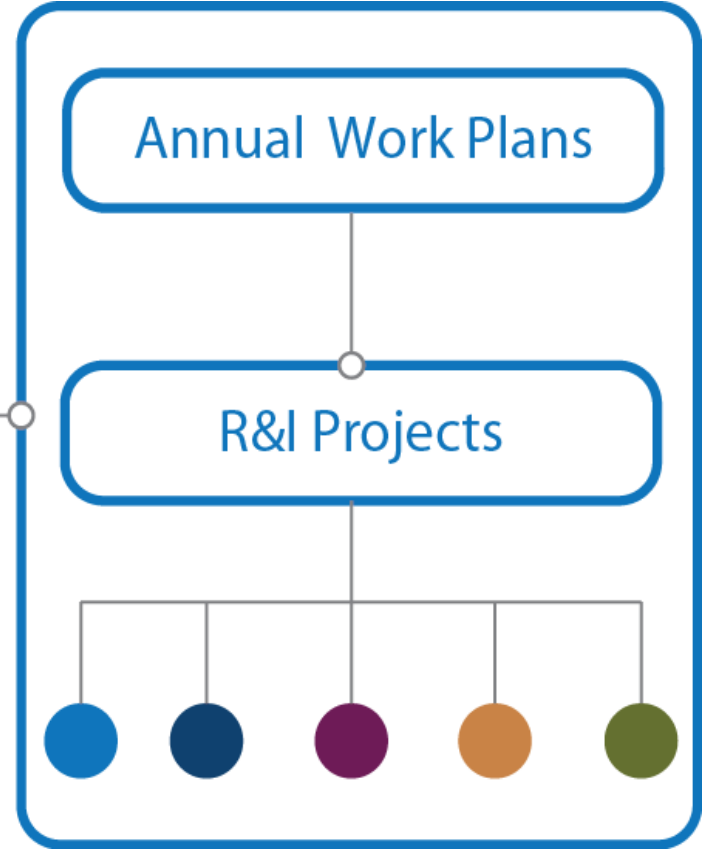
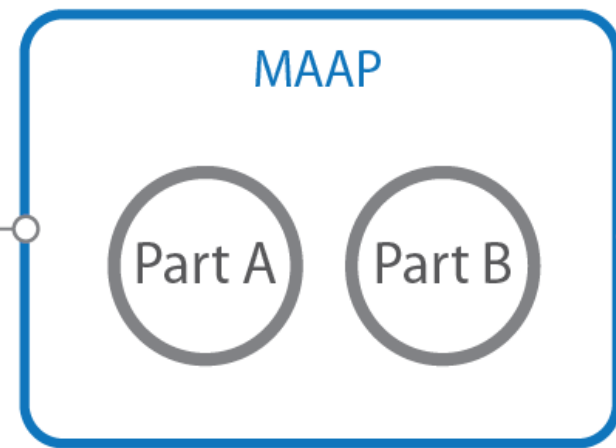
**RAPID & RELIABLE
R & I DELIVERY**

Logistics on demand

**ENVIRONMENTAL & SOCIAL
SUSTAINABILITY**

MOBILITY AS A SERVICE
OPTIMUM ENERGY USE
**SERVICE TIMED TO
THE SECOND**





S2R PROGRAMME: INTEGRATED CONSISTENT DELIVERY ORIENTED

Long-term needs and
socio-economic research

Smart materials and
processes

System integration, safety
and interoperability

Energy and sustainability

Human capital

IP 1

Cost-efficient and Reliable Trains, including
high capacity trains and high speed trains

IP 2

Advanced Traffic Management & Control
Systems

IP 3

Cost-efficient, Sustainable and Reliable High
Capacity Infrastructure

IP 4

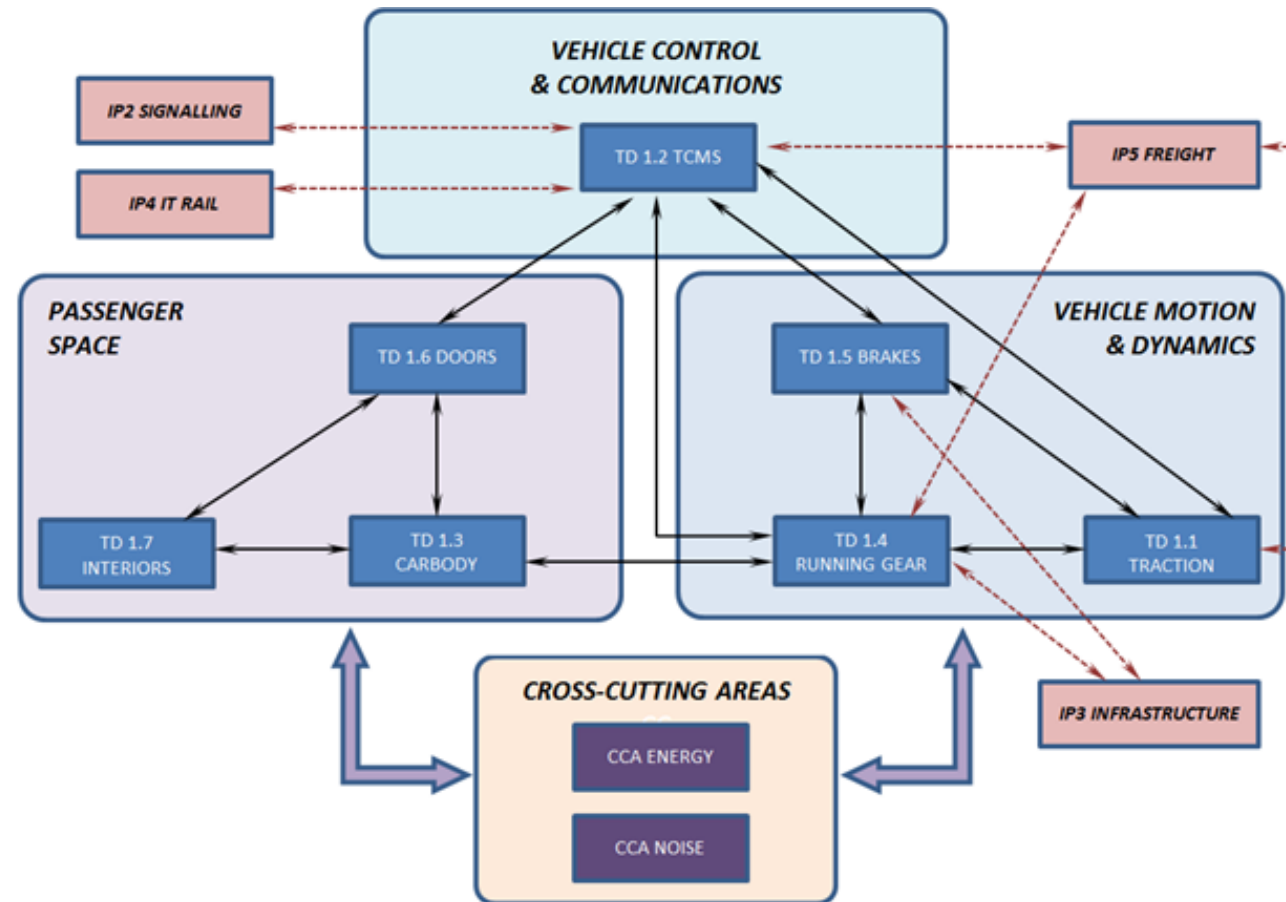
IT Solutions for Attractive Railway Services

IP 5

Technologies for Sustainable & Attractive
European Freight



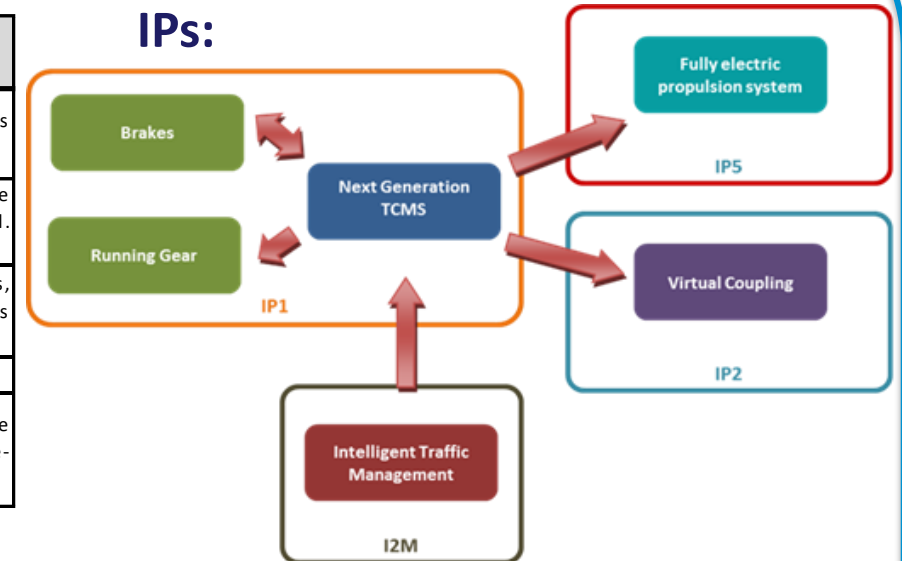
Example: IP1



Final Demos of TD 1.2 TCMS :

| Research Area | Specific Techn. objective | Specification Activities | Demonstrator | | Focus of activity |
|-------------------------------|--------------------------------------|--|--------------|-----|--|
| | | | Market | TRL | |
| Train Control & Monit. System | Wireless TCMS | Radio techn., architecture and protocols | Metro | 6/7 | Incorporate wireless technologies to the train communication network solutions (i.e. train backbone, consist network and train to ground communication). |
| | | | Regional | 6/7 | |
| | Drive-by-data | Architecture, protocols | Metro | 6/7 | Provide a train-wide communication network for full TCMS support including the replacement of train lines, connecting safety functions up to SIL4 (incl. signalling). |
| | | | Regional | 5 | |
| | Functional distribution architecture | Specification, architecture and interface definition | Metro | 6/7 | New architectural concept based on standard framework & application profiles, distributed computing to allow execution of compliant functions on end devices distributed along the vehicle meeting different safety & integrity requirements |
| | | | Regional | 5 | |
| | Virtual Placing on the Market | Technology definition, protocols and procedures | Generic | 6/7 | Support the Functional Open Coupling |
| | | | | | Standardised simulation framework in which all subsystems of the train will be simulated, allowing remote and distributed testing including hardware in-the-loop through heterogeneous communication networks. |

Interaction with other TDs and IPs:



- Planning (budget estimated at 48,8M€):

| TASKS | TRL | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-----|------|------|------|------|------|------|------|
| TD1.2 TCMS | | | | | | | | |
| 1.2.0 General specification | - | | | | | | | |
| 1.2.1 Wireless TCMS | 6/7 | | | | | | | |
| 1.2.2 Drive-by-data | 6/7 | | | | | | | |
| 1.2.3 Functional distribution architect. | 6/7 | | | | | | | |
| 1.2.4 Virtual placing on the market | 5 | | | | | | | |
| 1.2.5 Integration, demo & assessment | 6/7 | | | | | | | |
| 1.2.6 Technical coordination | - | | | | | | | |



From TRL0 to TRL6/7

Technology Demonstrator (TDs)

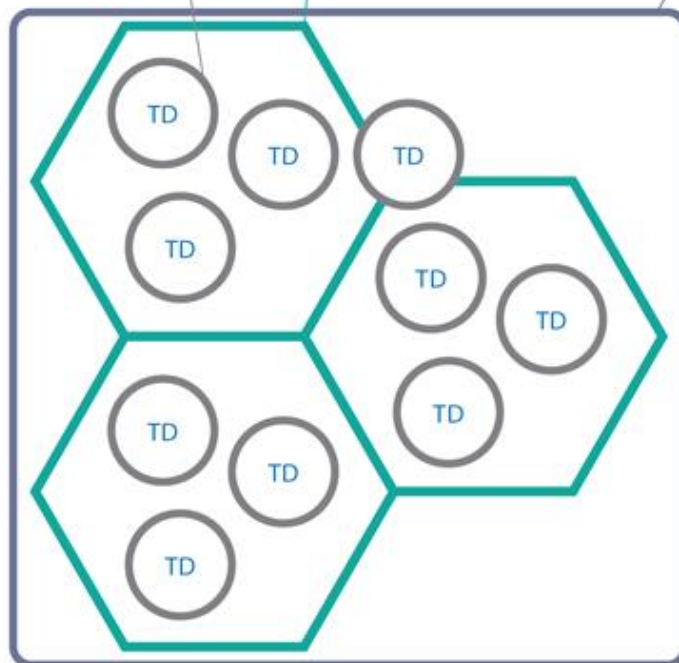
Projects specifying, developing and demonstrating a specific technology resulting in a lab tested and/or simulated prototype

Integrated Technology Demonstrators (ITDs)

Projects integrating/combining TD prototypes at system level (lab and on-site) and testing performance

System Platform Demonstrators (SPDs)

Assessment of the whole systems performance based on the results of TDs and ITDs. SPDs bring S2R innovative solutions to a technology maturity level for a new generation of railway system



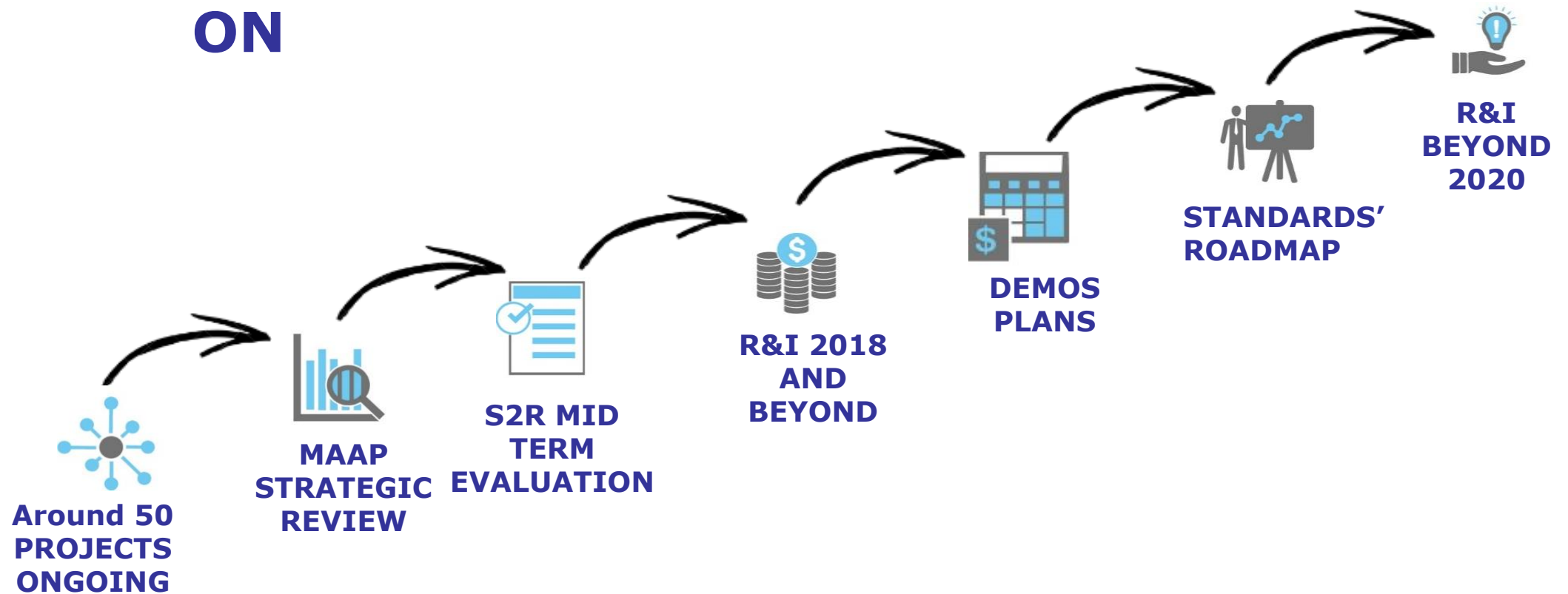
RAILWAY SYSTEM
OF THE FUTURE

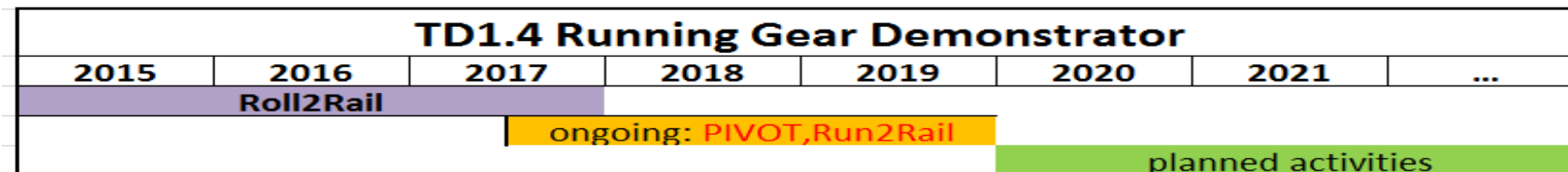
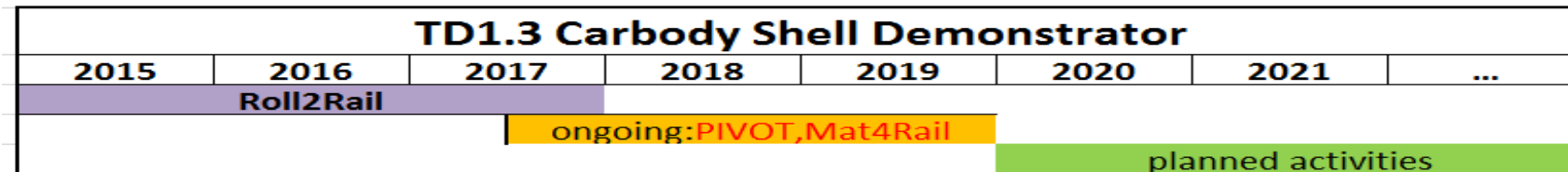
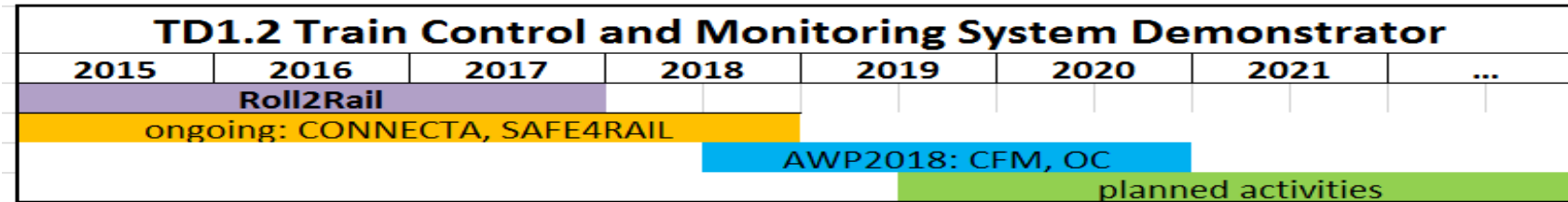
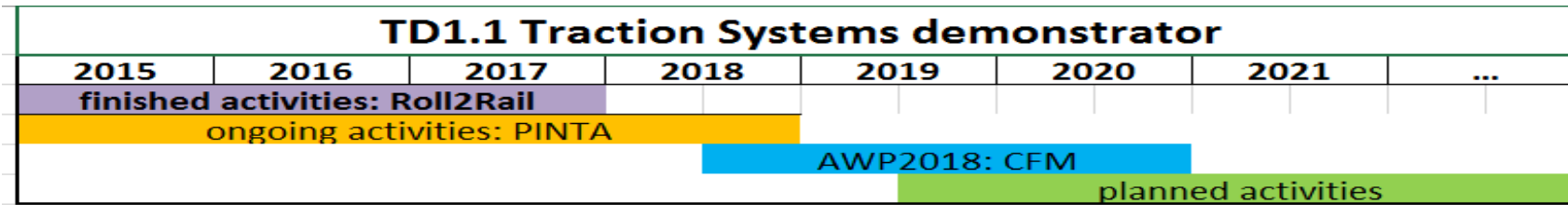


2 – Programme progress and relation with current call activities



WHAT'S GOING ON





TD1.4 Running Gear Demonstrator

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|-----------|------|--------------------------|------|------|--------------------|------|-----|
| Roll2Rail | | | | | | | |
| | | ongoing: PIVOT, Run2Rail | | | | | |
| | | | | | planned activities | | |

TD1.5 Brake Systems Demonstrator

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|-----------|------|--|------|------|--------------------|------|-----|
| Roll2Rail | | | | | | | |
| | | ongoing: CONNECTA, PINTA, SAFE4RAIL, PIVOT | | | | | |
| | | | | | planned activities | | |

TD1.6: Doors and Access Systems Demonstrator

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|------|--------------------------|------|------|--------------------|------|-----|
| | | ongoing: PIVOT, Run2Rail | | | | | |
| | | | | | planned activities | | |

TD1.7: Train Modularity In Use (TMIU)

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|-----------|------|--------------------------|------|------|--------------------|------|-----|
| Roll2Rail | | | | | | | |
| | | ongoing: PIVOT, Mat4Rail | | | | | |
| | | | | | planned activities | | |



TD2.1: Adaptable communications for all railways (quality of service, interfaces)

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|--------------------------------|------|-------------------|------|------|------|--------------------|
| | Ongoing act.: X2Rail1, Mistral | | | | | | |
| | | | AWP 2018: CFM, OC | | | | |
| | | | | | | | planned activities |

TD2.2: Railway network capacity increase (ATO up to GoA4 – UTO)

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|--------------------------------|------|------|------|------|------|--------------------|
| | Ongoing act.: X2Rail1, ASTRail | | | | | | |
| | | | | | | | planned activities |

TD2.3 Moving Block

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|--------------------------------|------|------------------|------|------|------|--------------------|
| | Ongoing act.: X2Rail1, ASTRail | | | | | | |
| | | | AWP2018: CFM, OC | | | | |
| | | | | | | | planned activities |

TD2.4: Fail-Safe Train Positioning (including satellite technology)

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|------|--------------------------------|-------------|------|------|------|--------------------|
| | | Ongoing act: X2RAIL-2; ASTRail | | | | | |
| | | | AWP2018: OC | | | | |
| | | | | | | | planned activities |



| TD2.5: On-board Train Integrity | | | | | | | |
|---------------------------------|------|------|------|--------------------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| | | | | Ongoing act.: X2RAIL-2; ETALON | | | |
| | | | | planned activities | | | |

| TD2.6: Zero on-site testing (control command in lab demonstrators) | | | | | | | |
|--|------|------|------|-----------------------------|------|--------------------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| | | | | Ongoing act.: X2Rail1, Vite | | | |
| | | | | AWP 2018: CFM, OC | | planned activities | |

| TD2.7: Formal methods and standardisation for smart signalling | | | | | | | |
|--|------|------|------|---------------------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| | | | | Ongoing act.: X2RAIL-2; ASTRail | | | |
| | | | | planned activities | | | |

| TD2.8: Virtually – Coupled Train Sets (VCTS) | | | | | | | |
|--|------|------|------|------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| | | | | AWP2018: CFM, OC | | | |



TD2.9: Traffic management evolution

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|------|------|------------------------|------|------|------|--------------------|
| | | | Ongoing act.: X2RAIL-2 | | | | |
| | | | | | | | planned activities |

TD2.10: Smart radio-connected all-in-all wayside objects

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|------|-------------------------------|------|------|------|------|--------------------|
| | | Ongoing act.: X2Rail1, ETALON | | | | | |
| | | | | | | | planned activities |

TD2.11: Cyber Security

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------|------|-------------------------------|------------------|------|------|------|--------------------|
| | | Ongoing act.: X2Rail1, Cyrail | | | | | |
| | | | AWP2018: CFM, OC | | | | |
| | | | | | | | planned activities |



| TD3.1 Enhanced Switch & Crossing System | | | | | | | |
|---|------|------|------|--------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| ongoing activities: In2Rail, In2Track | | | | | | | |
| | | | | AWP 2018: CFM | | | |
| | | | | planned activities | | | |

| TD3.2 Next Generation Switch & Crossing System | | | | | | | |
|--|------|------|------|---------------|------|--------------------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| ongoing activities: In2Rail, S-CODE | | | | | | | |
| | | | | AWP 2018: CFM | | | |
| | | | | | | planned activities | |

| TD3.3 Optimised Track System | | | | | | | |
|---------------------------------------|------|------|------|--------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| ongoing activities: In2Rail, In2Track | | | | | | | |
| | | | | AWP 2018: CFM | | | |
| | | | | planned activities | | | |

| TD3.4 Next Generation Track System | | | | | | | |
|------------------------------------|------|------|------|--------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| ongoing activities: In2Rail | | | | | | | |
| | | | | AWP 2018: CFM | | | |
| | | | | planned activities | | | |



TD3.5 Proactive Bridge and Tunnel Assessment, Repair and Upgrade

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|---------------------------------------|------|------|------|--------------------|------|--------------------|-----|
| ongoing activities: In2Rail, In2Track | | | | AWP 2018: OC & CFM | | planned activities | |

TD3.6 Dynamic Railway Information Management System (DRIMS)

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|---|------|------|------|--------------------|------|------|-----|
| ongoing activities: In2Smart, IN2DREAMS | | | | planned activities | | | |

TD3.7 Railway Integrated Measuring and Monitoring System

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|--|------|------|------|--------------|------|--------------------|-----|
| ongoing activities: In2Rail, In2Smart, MOMIT | | | | AWP 2018: OC | | planned activities | |

TD3.8 Intelligent Asset Management Strategies (IAMS)

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|---------------------------------------|------|------|------|--------------------|------|------|-----|
| ongoing activities: In2Rail, In2Smart | | | | planned activities | | | |



| TD3.9 Smart Power Supply | | | | | | | |
|--|------|------|------|--------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| ongoing activities: In2Rail, In2Stempo | | | | | | | |
| | | | | planned activities | | | |

| TD3.10 Smart Metering for Railway Distributed Energy Resource Management System | | | | | | | |
|---|------|------|------|------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| ongoing activities: In2Rail, In2Stempo, In2Dreams | | | | | | | |

| TD3.11 Future Stations | | | | | | | |
|------------------------|------|------|------------------------------------|------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
| | | | AWP 2017: IN2STEMPO, FAIR STATIONS | | | | |



| TD 4.1 Interoperability Framework | | | | | | | |
|--|------|------|------|----------------------|------|------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, GOF4R, ST4RT, CONNECTIVE | | | | | | | |
| | | | | AWP 2018 Open Call 1 | | | |
| | | | | Planned activities | | | |

| TD4.2 Travel Shopping | | | | | | | |
|---|------|------|------|---------------------------|------|------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, Co-Active, COHESIVE | | | | | | | |
| | | | | AWP 2018 Call For Members | | | |
| | | | | Planned activities | | | |

| TD4.3 Booking and Ticketing | | | | | | | |
|---|------|------|------|---------------------------|------|------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, Co-Active, COHESIVE | | | | | | | |
| | | | | AWP 2018 Call For Members | | | |
| | | | | Planned activities | | | |

| TD4.4 Trip Tracker | | | | | | | |
|--|------|------|---------------------------|------|--------------------|------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, Attracktive, My-TRAC | | | | | | | |
| | | | AWP 2018 Call For Members | | | | |
| | | | | | Planned activities | | |



| TD4.5 Travel Companion | | | | | | | |
|---|------|------|------|------|------|--------------------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, Attractive, My-TRAC | | | | | | | |
| | | | | | | Planned activities | |

| TD4.6 Business Analytics | | | | | | | |
|--|------|------|------|------|------|--------------------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, GOF4R, ST4RT, CONNECTIVE | | | | | | | |
| | | | | | | Planned activities | |

| ITD4.7 Integrated Technical Demonstrator | | | | | | | |
|--|------|------|------|------|------|--------------------|------|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Ongoing act. IT2RAIL, COHESIVE | | | | | | | |
| | | | | | | Planned activities | |



TD 5.0 – Business analytics and implementation strategies

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|--|------|------|------|------|------|------|-----|
| ongoing projects: SMART-RAIL, FR8RAIL, INNOWAG, FR8HUB | | | | | | | |

TD5.1 Freight electrification, brakes and telematics

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|------------------------------------|------|------|------|------|------|------|-----|
| ongoing projects: FR8RAIL, INNOWAG | | | | | | | |
| AWP2018: CFM | | | | | | | |
| planned activities | | | | | | | |

TD5.2 Access and Operation

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|---|------|------|------|------|------|------|-----|
| ongoing projects: ARCC, SMART, OPTIYARD | | | | | | | |
| AWP2018: CFM | | | | | | | |
| planned activities | | | | | | | |

TD5.3 Wagon design

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|--|------|------|------|------|------|------|-----|
| ongoing projects: FR8RAIL, INNOWAG, FR8HUB | | | | | | | |
| AWP2018: CFM | | | | | | | |
| planned activities | | | | | | | |



TD 5.4 Novel Terminal, Hubs, Marshalling Yards, Sidings

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|--------------------------|------|------|------|------|--------------------|------|-----|
| ongoing projects: FR8HUB | | | | | planned activities | | |

TD 5.5 New Freight Propulsion Concepts

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|--|------|------|------|------|--------------------|------|-----|
| ongoing projects: FFL4E, DYNAFREIGHT, FR8HUB | | | | | planned activities | | |
| | | | | | AWP2018: CFM & OC | | |

TD 5.6 Autonomous train operation

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | ... |
|-------------------------------|------|------|------|------|--------------------|------|-----|
| ongoing projects: ARCC, SMART | | | | | planned activities | | |
| | | | | | AWP2018: CFM | | |



| WA1 Long-term needs and socio-economic research & SPD's | | | | | | | | |
|---|------|------|------|--------------------|------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | ... |
| ongoing act.: ROLL2RAIL, IMPACT1, NEAR2050, IMPACT2 | | | | | | | | |
| | | | | planned activities | | | | |

| WA2 KPI method and integrated assessment | | | | | | | | |
|--|------|------|------|------|------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | ... |
| ongoing act.: ROLL2RAIL, IMPACT1, tender KPIs, IMPACT2 | | | | | | | | |

| WA3 Safety, Standardisation, Maintenance, Materials, Virtual Certification | | | | | | | | |
|--|------|---|------|---------------|--------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | ... |
| | | ongoing act.: PLASA, GoSAFE RAIL, IMPACT2, SMarTE | | | | | | |
| | | | | AWP 2018: CFM | | | | |
| | | | | | planned activities | | | |



| WA4 Smart Planning, I2M | | | | | | | | |
|--|------|------|------|---------------|------|--------------------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | ... |
| ongoing act.: IN2RAIL, PLASA, GoSAFE RAIL, IMPACT2 | | | | | | | | |
| | | | | AWP 2018: CFM | | planned activities | | |
| | | | | | | | | |

| WA5 Energy and sustainability | | | | | | | | |
|-------------------------------|------|------|------|---------------------------------------|--------------------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | ... |
| | | | | ongoing act.: FINE1, OPEUS, DESTINATE | | | | |
| | | | | | planned activities | | | |

| WA6 Human Capital | | | | | | | | |
|--|------|------|------|------|------|------|------|-----|
| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | ... |
| ongoing act.: IMPACT2 , SMaRTE , tender HC | | | | | | | | |



3- Programme approach: complementarity concept + internal JU processes



YOUR PROJECT and the overall S2R programme

- YOUR PROJECT will contribute to the **achievement of the Master Plan and the MAAP objectives**
- YOUR PROJECT is part of a programme and **cooperation with other projects** must be ensured
 - Through the **collaboration and input to the JU Members**, YOUR PROJECT will support the realization of **long-term S2R technological demonstrations or innovative break-through**
- Particular attention is given to ensure that there is **no duplication of work** between YOUR PROJECT and current/future R&I activities
- YOUR PROJECT results are taken into consideration for the next annual work plans to ensure sufficient **complementarity** and **coherence**.



Collaboration Agreement (1/5)

1. Complementary is defined at topic level
 - a. Evaluation of complementary project proposals was done by the same panel of experts
2. Complementarity between topics is compulsory established in the Grant Agreement
3. IP/CCA SteCos: high level synchronization points: **Project Coordinators may attend the SteeCo meetings as observer and IP Coordinators cooperate with project coordinator to foster/promote synergies**
4. S2R Programme Managers: Central Contact Point for both projects



Collaboration Agreement (2/5)

- **Issues to be tackled (examples/non-exhaustive list)**
 - Rules for collaboration, “who does what?”; Point of Contact for administration.
 - Handling review of documents
 - Agreement on action to be performed by both sides + linked timing (e.g. project A provides “user requirements” by M6 to project B; project B provides input by M18 to project A → project A uses input for deliver their deliverable 2.3).
 - Participation to restricted meetings (for specific purpose) or to public meetings (including Advisory Groups, etc...).



Collaboration Agreement (3/5)

- To be signed between the complementary beneficiaries of OC with beneficiaries of CFM (**Arts. 2 and 41.4 of the GA**)
- Model Collaboration Agreement to be used ... but to be fine-tuned by the parties to suit the specific needs!
 - if you use a different COLA, please share it with us
- **To be signed as early as possible:**
 - Share the final agreed version with the JU
 - In case of breach of obligation under the GA, the JU can take appropriate measures to ensure the correct execution of the action(s)
 - No COLAs between CFM Projects of the same “generation” and the JU will address the question in the next months



Tips/lessons learnt:

- COLA establish the relation between OC Projects with CFM Projects, to ensure **alignment**, agreement on **tasks, background and results** and adequate dealing with **know-how** (if any) → Annexes should have meaningful content and ensure OC Projects duly provide to the CFM Projects input when so defined!
- **Start discussions with complementary project(s) as soon as possible**
 - Anticipate as much as possible issues (timing discrepancy, possible duplication, etc...)
 - Inform the S2R PM should any major difficulties encountered
 - However... COLA's signature cannot be a barrier to collaborate!
- **Changes in your own project may be needed as a result:**
 - assess the need for an amendment within the consortium
 - Inform the S2R PM as soon as possible → JU assessment



IPRs: Collaboration Agreement (5/5)

1. Access rights to *background* to beneficiaries of complementary grants

According to article 25.5: The rules on access to background (including conditions and scope of access) are generally the same as for results. *However*, for background there is NO (or a more limited) obligation to give access, if there are restrictions or limits (legal or otherwise) and the beneficiary has informed the others — before acceding to the GA (or immediately when additional background is agreed on) — e.g. a pre-existing agreement (e.g. an exclusive licence) which precludes the granting of access rights.

2. Access rights to results to beneficiaries of complementary grants

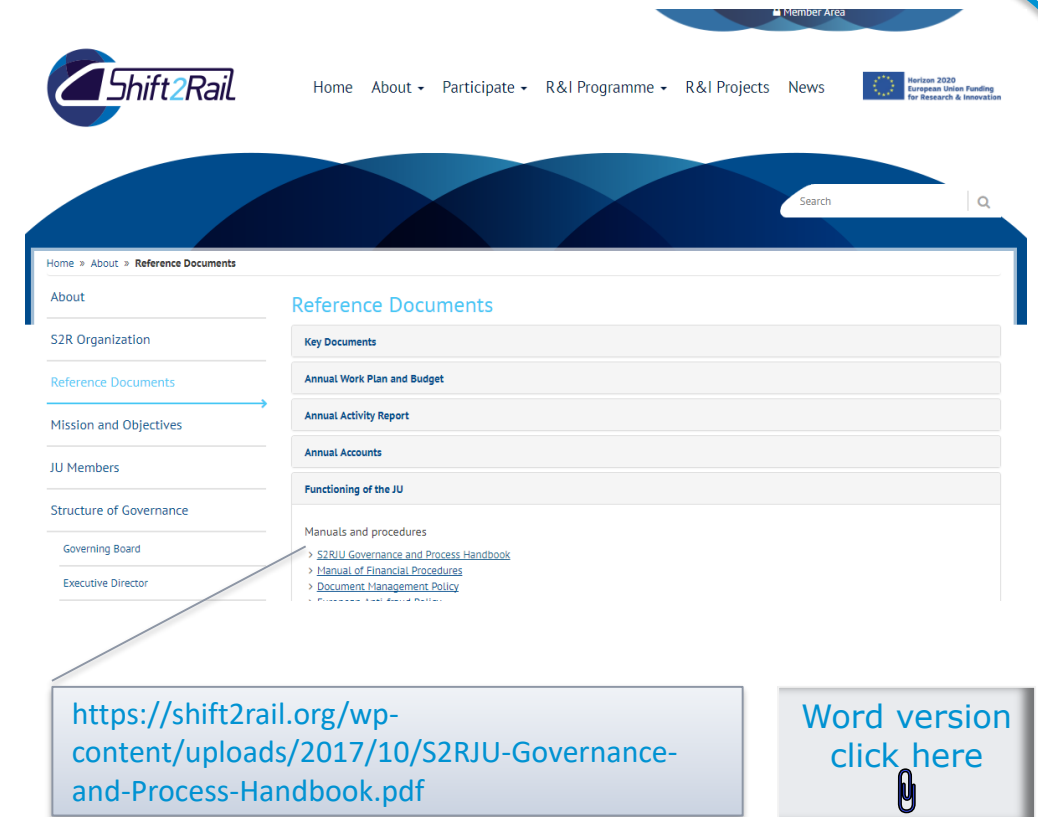
According to article 31.6: access rights to results must be granted to the beneficiaries of complementary.



Governance and process handbook ("PM Handbook", available on the S2R website)

- The handbook defines and documents the Programme governance and relevant business processes, including relevant templates and guidelines.

→ Provides the Coordinator with useful reporting templates and guidelines (deliverable template, collaboration agreement, technical report, reporting to the SteCo, etc...)



S2R
Projects
official
reporting

Technical reporting

Deliverables and Technical reports must be submitted in the appropriate template given in the PM handbook

Financial reporting

The financial reporting for CFM projects should follow the *"Guidance for members and their appointed auditors"*. All project reporting must use the appropriate template

Project reporting to the Steering Committee

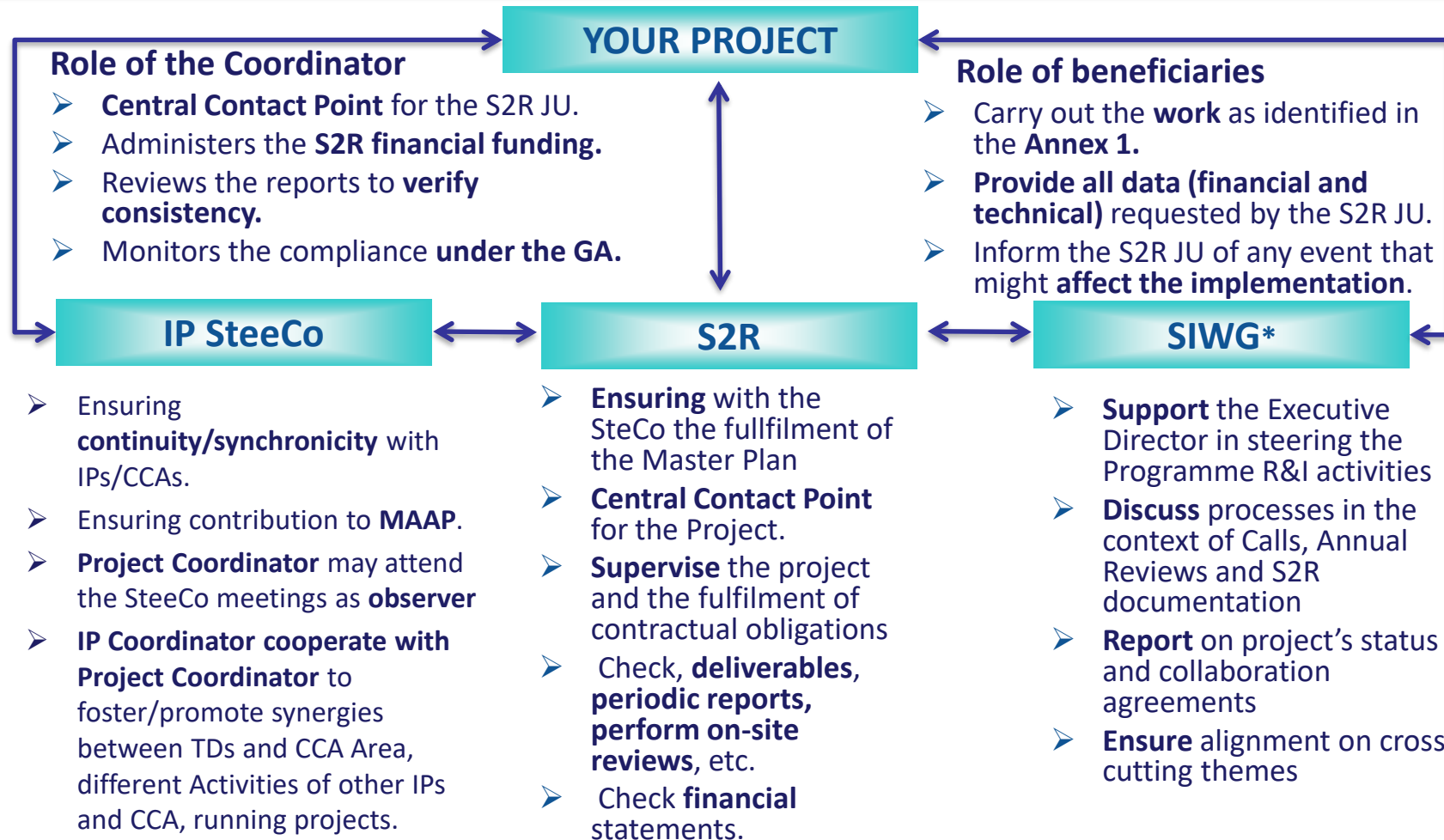
Each Committee meets every three months to handle disputes, propose possible budget re-allocations and check the implementation of detailed plans.

The project coordinators carry out the day-to-day project management, technical oversight and administration of the funded activities related to TDs and ITDs.

→ The project coordinators are expected to report to the SteCo the status of their project (using the appropriate template: *"Project reporting to the IP SteCo"*)

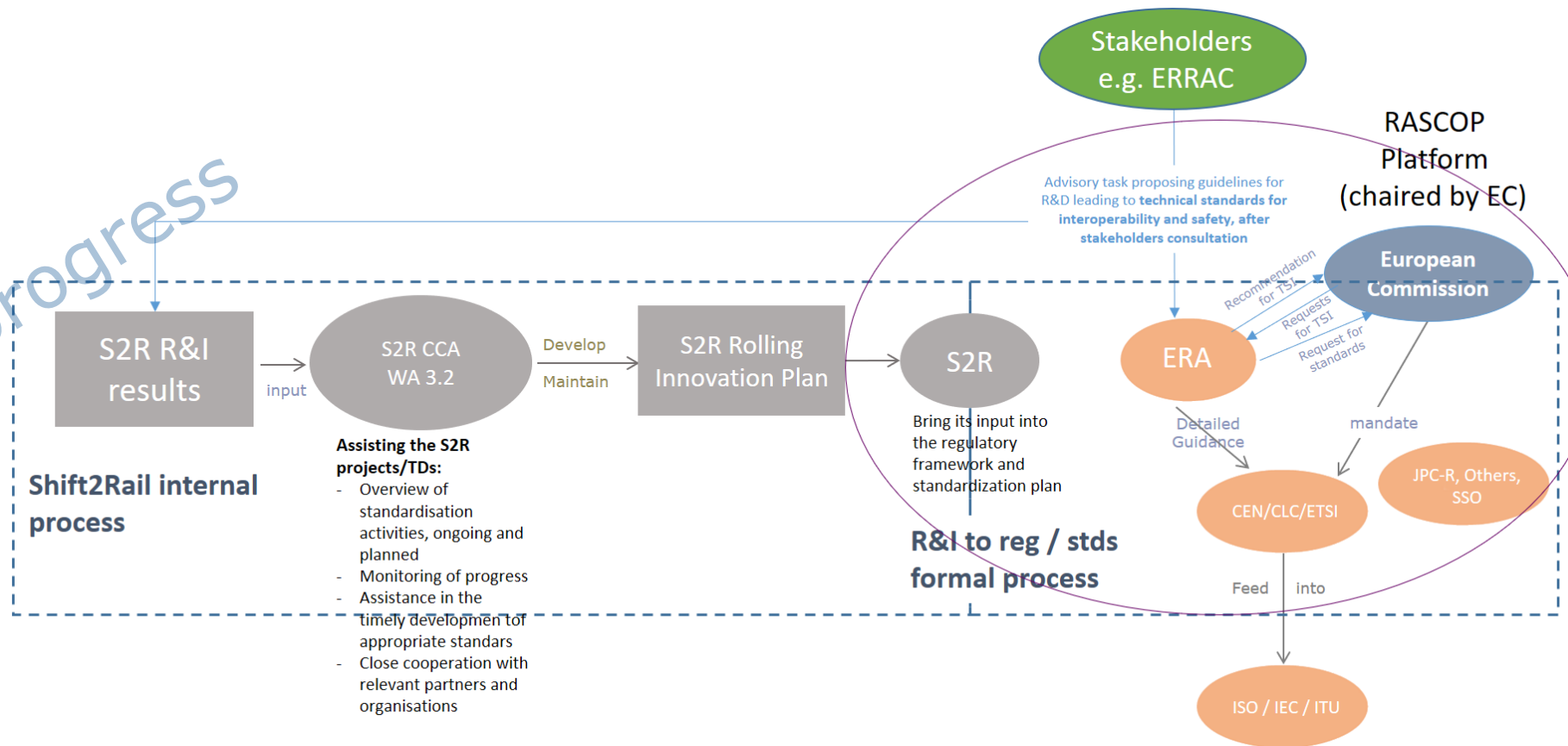


Interactions & roles



Projects results and process to standards / regulation

Work in progress



Projects results and process to standards / regulation

Relation with European Agency for Railways (ERA) relevant to the Projects:

To ensure that successful results do not encounter a regulatory blocking point because of their novelty, the S2R JU has defined with ERA and DG Move a process for collaboration at project level:

1. ERA could attend the evaluation of the call proposals as observer;
2. ERA will provide to the S2R JU the *“the level of desired involvement”* in those projects within the scope of its activities;
3. The S2R JU will discuss the involvement of ERA in the indicated projects with the relevant Project Coordinator to ensure their participation as appropriate. This should be defined during the Grant Agreement Preparation (GAP) phase, as far as possible;
4. ERA will communicate to the S2R JU the name of the ERA representative who will be following up the indicated projects;
5. S2R will provide the possibility to the ERA representative(s) to attend the respective Project Kick-off meeting and may involve him/her as observer during the Review meetings or Projects checks and may request ERA to provide written advice on specific Project deliverables or reports.



How to ensure that **YOUR PROJECT** will be successful?

- **Delivering on time** the expected results in accordance to the plan
- **Regular dialogue with the S2R Programme Manager** to ensure a good flow of information about the project and its progress.
- **Collaboration with the bodies of the Joint Undertaking** (in particular the IP Steering Committee or other working groups set up by the Governing Board) will be important.
- **Coordination and cooperation** with the **complementary grants** (and other ongoing research projects) will be essential.
- **Coordination and communication** among the different **WPs**.
- **Collaboration to S2R KPIs and Standardization activity (CCA)**

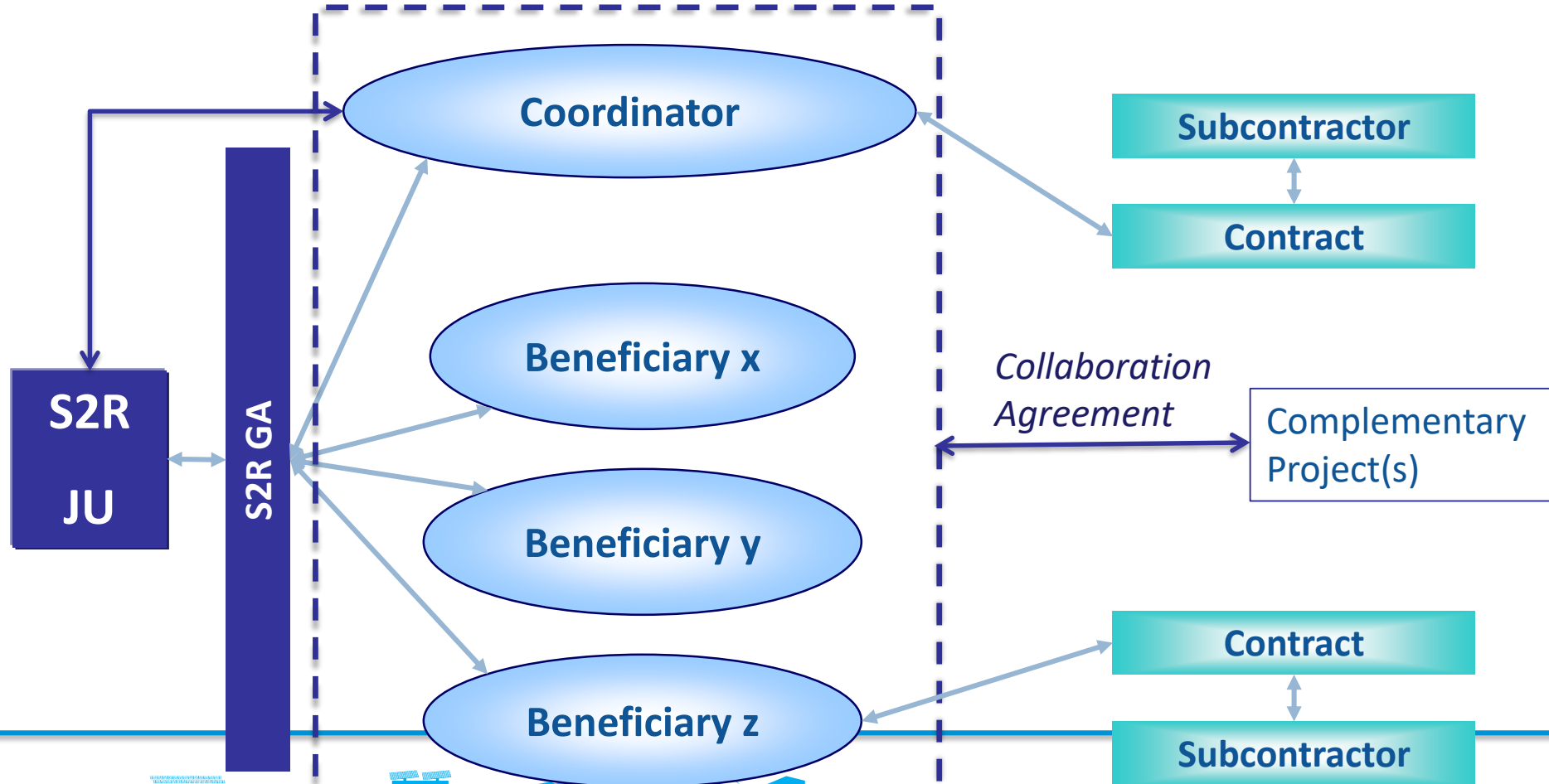


- **4 - Manage your project:**
 - **Legal Aspects**



Grant Agreement Structure

Range of Contractual Agreements *Consortium Agreement*



H2020 Grant Agreement

Annex 1: Description of the action part A & B

Annex 2: Estimated budget

Annex 3: Accession forms of beneficiaries

Annex 3a: Declaration joint liability of third parties

Annex 4: Model financial statements

Annex 5: Model certificate on financial statements

Annex 6: Model certificate on the methodology



| TYPE | CHARACTERISTICS | | | | | | |
|---|--|--|-------------------------|-------------------------------|-----------------|--|--------------------|
| | Works on action tasks? | Provides resources or services for action? | What is eligible? | Must be indicated in Annex 1? | Indirect costs? | Selecting the third party | GA articles |
| Linked third party | YES | NO | Costs | YES | YES | Must be affiliated or have a legal link | Article 14 |
| International partners | YES | NO | N/A | YES | N/A | Must not be eligible for funding | Article 14a |
| Subcontractor | YES | NO | Price | YES | NO | Must be best value for money, avoid conflict of interest | Article 13 |
| Third party providing in-kind contribution | NO | YES | Costs | YES | YES | May not be used to circumvent the rules | Articles 11 and 12 |
| Contractor (selling, equipment, good or service) | NO | YES | Price | NO | YES | Must be best value for money, avoid conflict of interest | Article 10 |
| Third parties receiving financial support ³¹ | The third parties participate in the action as recipients. | | Amount of support given | YES | NO | According to the conditions in Annex 1 | Article 15 |



Linked third parties (Art. 14) (1)

Affiliated entities (capital link) are:

- under the direct or indirect control of the beneficiary or
- under the same direct or indirect control as the beneficiary or
- directly or indirectly controlling the beneficiary.

Entities with a legal link:

- Broad and legal relationship not specifically created for the work in the GA (no ad hoc collaboration agreements).



Linked third parties (Art. 14) (2)

- The beneficiary remains responsible towards the JU for the work carried out by the linked third party.
- Do NOT sign the GA
- Must fulfil the same conditions for participation and funding under H2020 as beneficiaries
- Does not charge a price, but declares its own costs for implementing the action tasks



Purchases of goods, works or services (Art.10)

- If necessary to implement the action and limited in cost and scope.
- Based the purchase either on the best value for money or the lowest price.
- “Contracting authorities” (2014/24/EU) or “Contracting entities” (Directive 2014/25/EU) must comply with the applicable national law on public procurement.



Subcontracting (Art.13) versus Purchases (Art.10) (Pag. 126 AMGA):

- Implementation of action task vs necessary to its implementation (auxiliary tasks).
- Need to be indicated in Annex 1 vs No need to be indicated.
- Best value for money/national law on public procurement in both cases.



Subcontracting (Art. 13)(2)

- If necessary to implement the action.
- Only limited to certain tasks and parts of the action.
- Based on business conditions, entailing profit.
- Work without the direct supervision of the beneficiary and it is not hierarchically subordinate to it.
- Responsibility lies fully on the beneficiary.
- Best value for money/national procurement rules.



- New subcontracts. If not foreseen at the moment of the signature of the GA, the coordinator must request an amendment. It can be exceptionally approved during reporting time without an amendment.
- Specific cases:
 - Framework contracts (E.g. services, furniture). If this is the usual practice of the beneficiary. Best value for money and no conflict of interest.
 - Coordinator tasks of the Coordinator cannot be subcontracted.



Summary: Third parties (1)

Beneficiary

Contracts
necessary for the
implementation

- For the purchase of goods, works or services
- Ensure best value for money and avoid any conflict of interests

• **Article 10 GA**

Contributions in kind

- Free of charge or against payment are eligible costs if they meet the eligibility conditions
- Must be set out in Annex 1
- If not identified in Annex 1, S2R JU may still approve them (beneficiary bears the risk of rejection)

• **Articles 11 & 12 GA**

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Summary: Third parties (2)

Beneficiary

Linked third parties

Affiliated entities

Third parties with a legal link

Subcontractors

- Ensure best value for money and avoid any conflict of interests
- Estimated costs and tasks must be identified in the budget and Annex 1
- If not identified in Annex 1, S2R JU may still approve them without amendment if specifically justified in the periodic technical report and not entailing changes to the Agreement (beneficiary bears the risk of rejection).

• Article 13 GA

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Summary: Third parties (3)

Beneficiary

Linked third parties

Affiliated entities

Third parties with a legal link

Subcontractors

- Similar to FP7 Special Clause 10
- Must be identified in the GA - PIC
- Separate tasks / budget
- Same cost eligibility criteria like beneficiaries
- ⚠ **NEW: S2R JU may request them to accept joint and several liability for their EU contribution in order to protect the EU's financial interests.**

• **Article 14 GA**

Consortium Agreement (1)

- The S2R JU is NOT part of it.

Key issues addressed in the Consortium Agreement (Indicative list):

- Internal organisation of the consortium.
- Management of access to the electronic exchange system.
- Distribution of EU funding.
- Settlement of internal disputes.
- IPR (to be decided before signature of contract)
- Risk management / collective responsibility
- Liability, indemnification and confidentiality arrangements between the beneficiaries.



Consortium agreement (2)

- Mandatory unless exceptionally provided otherwise in the work programme/call.
- Must not contradict the GA.
- Should be negotiated and concluded before the signature of the GA (or serious risk that prolonged disagreement jeopardises the action).
- Costs related to the preparation of the Consortium Agreement are not eligible.



- Ethics review is conducted in order not to fund proposals that contravene ethical principles. Proposals that are security sensitive must undergo a security screening
- 1. Self-assessment at the stage of proposals submission
- 2. Ethics review during the selection procedure
 - Clearance
 - Conditional clearance (Ethic issues to be addressed in Annex 1)
 - definition of ethics requirements
 - Ethics deliverables
 - Recommendation for ethics checks. In parallel with GAP
- 3. Ethics checks, review and audits
- **Common ethics issues – (1) participation of humans in research, (2) protection of personal data, (3) participation of third countries, (3) dual use**



ACCESS RIGHTS TO BACKGROUND

- The beneficiaries must identify and agree on what **constitutes background** for their action.
- The agreement may take any form (e.g. positive list, negative list). It may be a separate agreement or may be part of the consortium agreement (article 41).
- If access to background is subject to **legal restrictions or limits**, the beneficiary must inform the other beneficiaries — before signing the GA
- Access must be given:
 - For the implementation of action tasks: the default rule is royalty-free.
 - For the exploitation of results: under fair and reasonable conditions.



OWNERSHIP OF RESULTS

- Results belong normally to the beneficiary that produced them..
- **Automatic joint ownership** — If beneficiaries have jointly generated results and it is not possible to establish their respective contribution (or to separate them for protection), the beneficiaries automatically become joint owners. The beneficiaries concerned must conclude a joint ownership agreement.
- The beneficiaries must ensure that they can fulfil their obligations under the GA regarding results, by making arrangements with any third parties that could claim rights to them



ACCESS TO RESULTS

- The beneficiaries must provide access to results, if it is needed:
 - by another beneficiary, for implementing action tasks or exploiting results
 - by an affiliated entity of another beneficiary, to exploit the results produced by the beneficiary to which it is affiliated — unless otherwise provided for in the consortium agreement.
- Access rights are not automatic; they must be requested (in writing).
- The agreement by the beneficiary owning the results (on the request for access) may be in any form (tacit, explicit, in writing or oral).



Costs incurred during the suspension period are **NOT** eligible.

By the beneficiaries(Art. 49.1):

- Exceptional circumstances (e.g "force majeure") makes implementation impossible.

By the JU (Art.49.2 GA):

- A beneficiary has committed or is suspect of having committed substantial errors, irregularities, or fraud, or serious breach of obligations under the GA.



By the beneficiaries(Art. 50.1 & 50.2):

- Notification must include the reason why and the date the termination will take effect.

By the JU (Art.49.2 GA):

- Only for the grounds listed under Art. 50.3.1 GA.

Eg. No accession to the Agreement; implementation of the action is prevented by force majeure; a beneficiary is declared bankrupt; etc.



5 – Manage your project: Financial aspects - Reporting, payments, budget and cost categories



5.1 - Reporting & payments

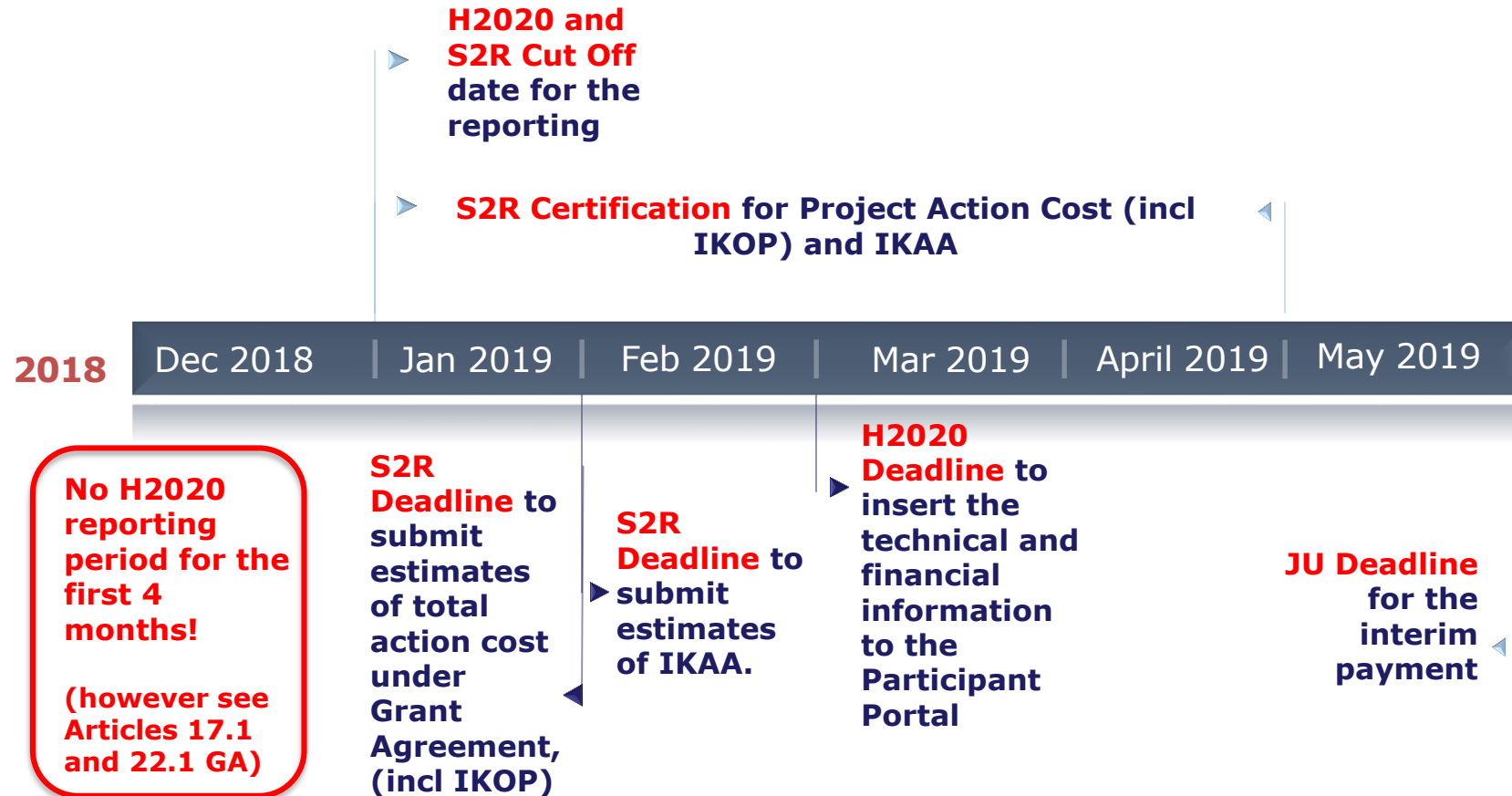


- The S2R JU will undertake regular review for each of the funded project to **ensure the Deliverables are on-track and of the necessary quality**
 - Those “investment gate controls” are set in the GA for Members’ project as Annual → month of April, before payments
 - For OC projects the control will be based on the received deliverables and project review may also happen during the same period



CFM Annual Reporting and Review

official Reporting periods are stated in Article 20.2 of the GA / Tentative schedule of project reviews are stated in section 1.3.7. of Annex I



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Reporting Periods OC

S2R Governance Handbook: Project awarded through Open Calls, the cycle is in line with the usual practice applied within H2020 projects. Consequently, the reporting period for interim payment ends is not combined with the annual cycle but has been set **every 12 months after the start of the project, for projects between 18 to 24 months, and every 18 months for longer life projects.**

ARTICLE 20 — REPORTING — PAYMENT REQUESTS

ARTICLE 20 — REPORTING — PAYMENT REQUESTS

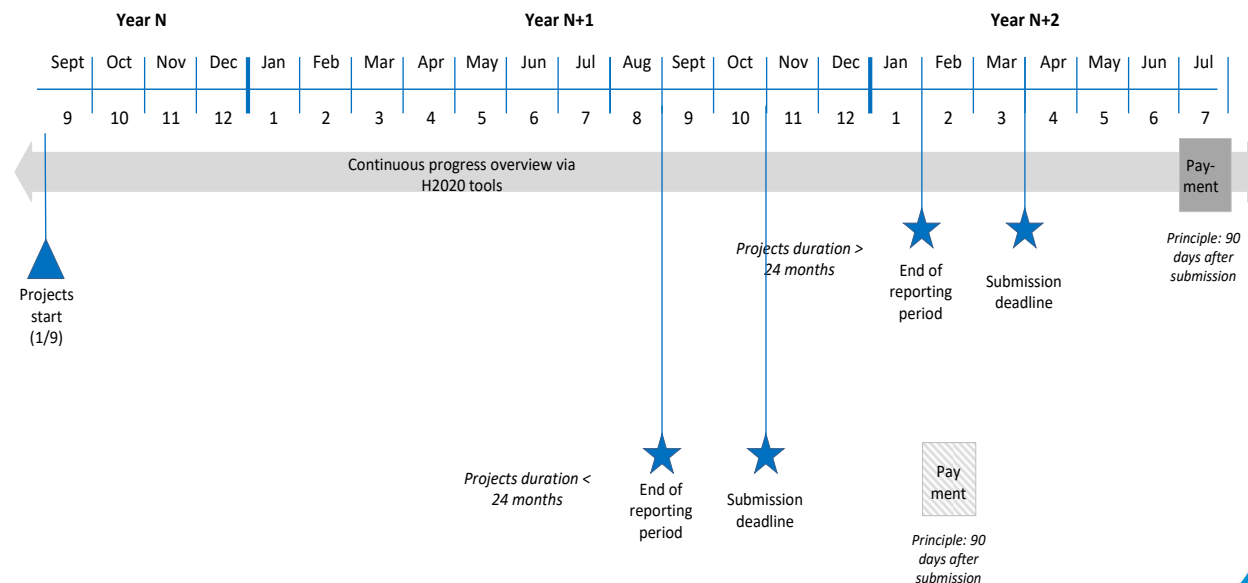
20.1 Obligation to submit reports

The coordinator must submit to the [Commission]/[Agency] (see [Article 52](#)) the technical and financial reports set out in this Article. These reports include the requests for payment and must be drawn up using the forms and templates provided in the electronic exchange system (see [Article 52](#)).

20.2 Reporting periods

The action is divided into the following ‘reporting periods’:

- RP1: from month 1 to month [X]
- [- RP2: from month [X+1] to month [Y]
- RP3: from month [Y+1] to month [Z]
- [same for other RPs]
- RPN: from month [N+1] to [the last month of the project].]



Types of payments (Article 21)



One *pre-financing*



One or several *interim payments*



One *payment of the balance*



Payments

- Payments will be made to the **coordinator** to the **bank account** established in the grant agreement
- Coordinator must distribute the payments to the beneficiaries without **unjustified delay**
- The coordinator will inform about the **distribution of the payments**: if the S2R JU requires it, in the event of a recovery at payment of the balance, if the participation of a beneficiary is terminated
- If the S2R JU does not pay within the deadline, the beneficiaries are entitled to a **late-payment interest**



One pre-financing payment

When

- Within 30 days from the signature of the grant or 10 days before the starting date, whichever is latest

How much

- Usually = maximum grant amount / number of periods
- Retention 5 % of maximum grant for Guarantee Fund

Characteristics

- It remains the property of the EU until the payment of the balance



| EXAMPLE | | | |
|---------------------------------------|--------------|-------------------|-------------------------------------|
| Maximum grant amount (Article 5.1) | Funding rate | Reporting periods | Guarantee Fund (5 % x 1 000 000) |
| 1 000 000 | 100% | 3 | 50 000 |

Usual pre-financing = maximum grant amount / number of periods

Pre-financing Payment

$$\begin{array}{ccccc} 283\,334\,€ & + & 50\,000\,€ & = & 333\,334\,€ \\ \text{Transferred to the} & & \text{Transferred to} & & \\ \text{consortium} & & \text{the Guarantee} & & \\ & & \text{Fund} & & \end{array}$$



Guarantee Fund

- Participant's Guarantee Fund is established amounting to **5% of total funding contribution**
- The Guarantee Fund **belongs to all beneficiaries** of grant agreements under H2020
- Financial interests generated by the Guarantee Fund will serve to **cover against financial risks**
- The amount contributed to the Fund will be **reimbursed at the end of the final payment** after the end of the project



After the end of each interim period

Periodic report ⇒ submitted by coordinator 60 days after end of reporting period

Periodic Technical Report

- ✓ explanation of the work carried out
- ✓ overview of progress (milestones and deliverables)
- ✓ summary for publication
- ✓ plan for the exploitation and dissemination of results (if required)
- ✓ answers to the questionnaire

Periodic Financial Report

- ✓ Financial Statement (individual & summary)
- ✓ Explanation of the use of the resources



After the end of each interim period

An interim payment

When

- 90 days from reception of periodic reports

How much

- EU contribution corresponding to the eligible costs incurred in the reporting period
- Limit = 90 % of the maximum grant amount

Characteristics

- Ineligible costs will be rejected and not taken into account for the payment



After the end of the last period

Final report

⇒ submitted by coordinator 60 days after end of last reporting period

In addition to the periodic report

Final Technical Report

- ✓ summary for publication
- ✓ overview of results and their exploitation & dissemination
- ✓ conclusions of the action and socioeconomic impact

Final Financial Report

- ✓ Summary Financial Statement
- ✓ Certificate on Financial Statement (if needed)



After the end of the last period

A payment of the balance

When

- 90 days from reception of final reports

How much

- Reimburses the remaining part of the eligible cost incurred
- Includes the release of the Guarantee Fund (GF)

Characteristics

- If Σ payments made $<$ final grant amount : *payment*
- If Σ payments made $>$ final grant amount : *recovery* \rightarrow first by offsetting with GF released, if not enough, by a recovery order
- If applicable: receipts & reduction of the grant will be taken into account to determine the final grant amount



Final grant amount: example

| EXAMPLE | | | | |
|----------------------|-------------------------|--------------|-------------|--------------|
| Maximum grant amount | Approved eligible costs | Funding rate | If Receipts | If Reduction |
| 200 | 220 | 100% | 30 | 20 |

Step 1

Total approved eligible costs X reimbursement rate (100% research actions/70% and 100% innovation actions)

$$220 * 100 \% = 220$$

Step 2

The lower between Step 1 and the maximum amount of the grant

$$\text{Lower between } (220; 200) = 200$$

Step 3

If reduction due to the no-profit rule
(Profit (only if positive) = Step 2 + receipts – Eligible cost)

$$200 - (200 + 30 - 220) \Rightarrow 200 - 10 = 190$$

Step 4

If reduction due to improper implementation or breach obligations under GA, the lower between Step 3 and the reduced maximum grant

$$\text{Lower between } (190; (200 - 20)) \Rightarrow \text{Lower between } (190; 180) = 180$$



(Article 20.8)



The consortium is late: no reports on time

- ☞ The S2R JU will send a reminder
- ☞ The payment deadline is suspended
- ☞ If still not submitted after 30 days, the S2R JU may terminate the grant agreement !



One beneficiary is late: its report is not ready

- ☞ The Coordinator may decide to submit the reports without that beneficiary
- ☞ Beneficiary's costs will be considered 'zero' for this reporting period, but it can declare its costs with the next reporting period



The S2R JU analyses the reports and:



The reports are complete and satisfactory, so it pays



The reports are incomplete / further information is needed:



Commission/Agency request information to coordinator



Payment deadline is suspended



In exceptional cases the S2R JU may:



Reject the reports giving justification



Suspend the payments for one or more beneficiaries



Terminate the grant



Reminders for the financial reports

- **Linked third parties** fill in a separate financial statement but only their beneficiaries can encode it in the IT system
- Don't forget to submit the **Certificate on the financial statements** (for beneficiaries and/or the linked third parties), if needed
 - * as part of the final report
 - * when total EU contribution claimed by the beneficiary on the basis of actual costs + unit costs for average personnel \geq EUR 325.000 (excluding e.g. flat rates !)



5.2 - Budget and cost categories



| | Estimated eligible* costs (per budget category) | | | | | | | | | |
|------------------|---|-----------|--|-----------|-----------------------------------|-----------------------------------|---|-------------------|-------------------|--------------------|
| | A. Direct personnel costs | | | | B. Direct costs of subcontracting | [C. Direct costs of fin. support] | D. Other direct costs | E. Indirect costs | [F. Costs of...] | |
| | A.1 Personnel A.2 Natural persons under direct contract A.3 Seconded persons [A.6 Personnel for providing access to research infrastructure] | | A.4 SME owners without salary A.5 Beneficiaries that are natural persons without salary | | | | D.1 Travel D.2 Equipment D.3 Other goods and services D.4 Costs of large research infrastructure | | [F.1 Cost of ...] | [F.2 Costs of ...] |
| Form of costs*** | Actual | Unit | Unit | | Actual | Actual | Actual | Flat-rate | Unit | |
| | | | XX EUR/hour | | | | | | xxx EUR/unit | |
| | (a) | Total (b) | No hours | Total (c) | (d) | (e) | (f) | (g) | No units | Total |
| Beneficiary 1 | 500.000 | 0 | 100 | 3.213 | 150.000 | 0 | 325.000 | 207.053 | 0 | 0 |
| Beneficiary 2 | 0 | 300.000 | 0 | 0 | 0 | 0 | 125.000 | 106.250 | 0 | 0 |



Budget Transfers

| Budget transfers and re-allocation | Amendment needed? |
|---|---|
| From one beneficiary to another | NO |
| From one budget category to another | NO |
| Re-allocation of Annex 1 tasks | YES |
| Transfers between forms of costs (actual costs, unit costs, etc.) | YES if the 'form' receiving the transfer was not included in the budget (example a new unit cost) |
| <input type="checkbox"/> Transfers within <i>personnel costs</i> | NO NEW ! |
| New subcontracts | YES (strongly advised) |



- Subject to **approval of technical reports**
- Stated costs must be **reasonable compared to work**
- **Actual** (or follow the rules e.g. **unit costs**)
- Incurred **during duration of project**
- In accordance with **beneficiary's usual accounting** and management principles
- **Recorded** in the accounts of beneficiary
- Used for the sole purpose of **achieving the objectives of the project**



Eligibility

- Staff working on the project must keep **time records** (hours they spend on the project; regularly (daily, weekly); countersigned by a supervisor)
- You must declare costs based on the actual amounts spent (AGA Article 5, Article 6(1)): **Personnel Costs** based on actual staff costs; **Other direct costs** based on actual costs for the project (AGA Article 6,2 D); **Depreciation** costs for assets; Real costs of **consumables**
- You **cannot**, under any circumstances, **sub-contract to a project partner** (AGA Article 13)



Forms of costs

Actual costs

- Costs actually incurred, identifiable and verifiable, recorded in the accounts, etc. see **Article 6 GA**



- **NEW: non-deductible VAT is now eligible**

Unit costs

- A fixed amount per unit determined by the Funding Authority Example: for SME owners not receiving a salary
- For average personnel cost (based on the usual accounting practices with possible certificate on the methodology)

Flat rate

- A percentage to be calculated on the eligible costs
Example: 25% flat rate for indirect costs



✓ **Less requirements for time records**

Example: No time records for researchers working exclusively on the project.

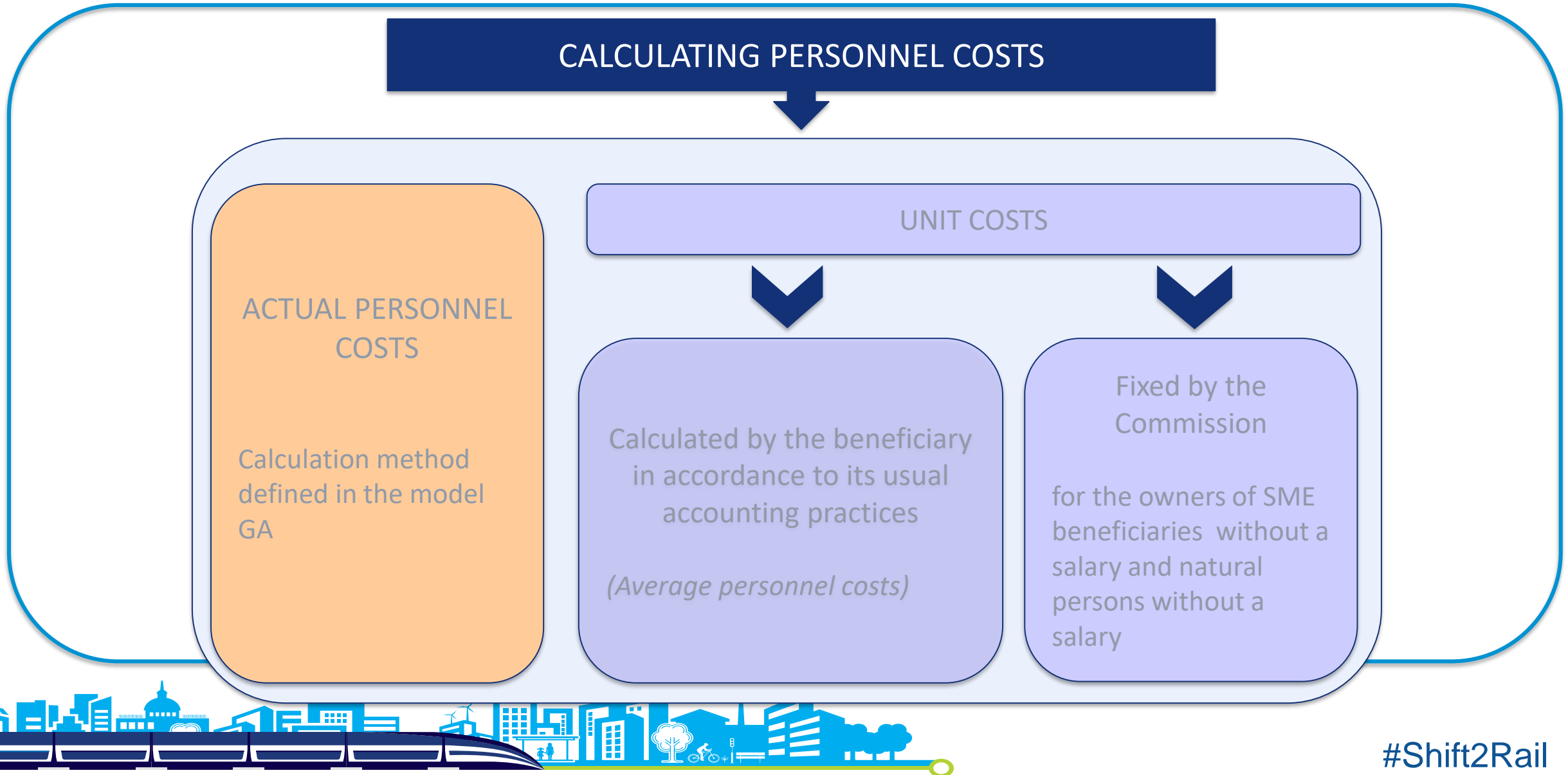
✓ **Wider acceptance of average personnel costs**

Broadening the acceptance of usual cost accounting practices (including cost-centre approaches) as unit costs.

✓ **Acceptance of additional remuneration**

- *Limited to non-profit legal entities*
- *Up to 8000 Euro/year/person working full-time exclusively in the action*
- *Subject to specific conditions*





Annual Productive Hours



1720 hours

Individual annual productive hours

- Formula: annual workable hours + overtime - absences

Standard annual productive hours

- According to the beneficiary's usual accounting practices; Minimum threshold: annual productive hours $\geq 90\%$ of the standard workable hours



Other Direct Cost

- Cost must be actual, identifiable and verifiable (Art. 6 AGA)
 - *No estimation of costs*
 - *No budgeted costs*
- May include energy and power supply if can be measured and if it is the general practice to include actual cost to a project and not include it to the overheads
- Spare part may be included but only from the portion of actual consumption
- **Contracts when they do not cover the implementation of action task but they are necessary** (audit certificate, translation, consultant, setting up a website if not identified in Annex 1 as a task to the project) – Art. 10 AGA
- Depreciation of equipment only in case directly used in projects, otherwise subject to timesheets (No % approach)



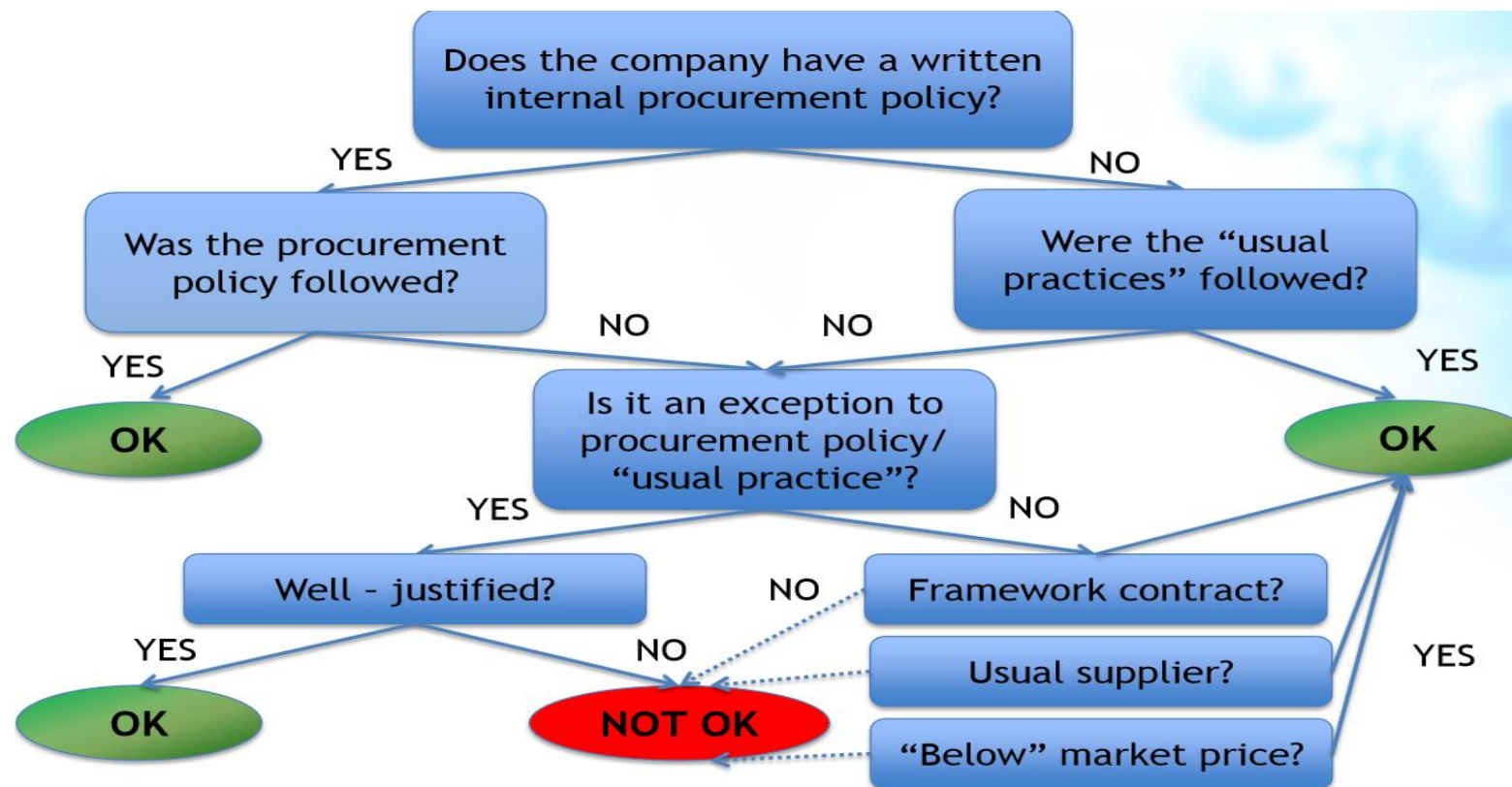
Subcontracting – Art. 13

- Subcontracts cover the implementation of action task as described in Annex 1 (Website, testing, building a prototype or any other defined in Action tasks)
- Not covered by the flat rate of indirect cost
- Subcontracting between beneficiaries in the same project is not allowed (p. 133 AGA)



Best Value for Money

Decision tree... a possible approach



but refer always to the AGA principles



Receipts

Income generated by the action
(except for action's results)

Income generated from the sale of
assets purchased in the GA

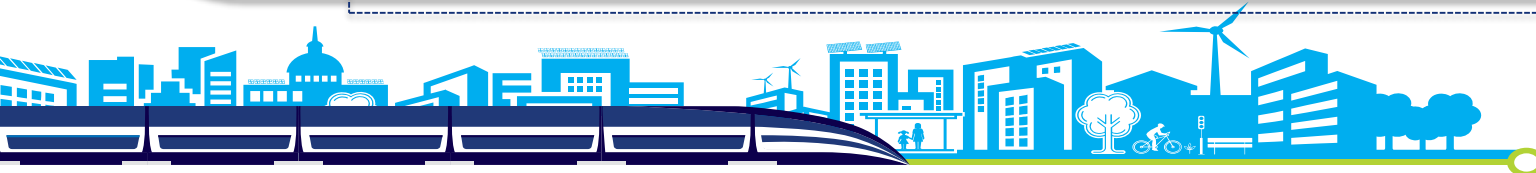
Receipts

In-kind contributions:
-specifically for the action
-received free of charge

Financial contributions specifically
assigned by
the donors to finance
the eligible costs



No-profit rule applied at project level, not per beneficiary!



Controls and audits: ex-ante

- Financial viability
 - Most beneficiaries exempt from detailed analysis; only systematic check **for coordinators when requested EU funding for the action is \geq EUR 500 000**
- Certificates
 - Certificate on the financial statements: Only for final payments when total EU contribution claimed by the beneficiary on the basis of actual costs + unit costs for average personnel \geq EUR 325.000 (excluding e.g. flat rates !)
 - Certificate on the methodology: Optional for average personnel costs (now under unit costs)



Controls and audits: ex-post

- **“Ex-post” controls**
 - Audits of the S2R – performed by EC services on behalf of S2R – limited to two years after the payment of the balance
 - Audits performed by the European Court of Auditors
 - OLAF Investigations....
- **Extension of audit findings**
 - Former "extrapolation" now included in the AGA
 - In the case of systemic or recurrent errors, irregularities, fraud or breach of obligations



6 - Manage your project:

Financial Aspects

Do's and Dont's

Please help us to help you to avoid errors!



Consequences of errors

Controls and audits are undertaken by the S2R JU (AGA Article 22) and the European Court of Auditors ... OLAF

Identified errors could lead to:

- Recovery of the undue amount (some time after you have received the money!)
- Penalties
- Reputational damage
- Financial losses
- etc



- Check that all third parties have been **clearly** declared (AGA Articles 6, 11, 12, 14)
- Check that all sub-contracting of scientific (or other) work has been **clearly** declared (AGA Article 13)
- Using in-house consultants? – please check the rules carefully (AGA Article 6.2 A2)
- Is a partner an interest group without staff? – normally staff costs relate to employees, this may be better declared as sub-contracting (AGA Article 6.2, A1)



Staff working on the project must keep time records (AGA Article 18)

- staff must record the hours they spend on the project
- regularly (daily, weekly)
- countersigned by a supervisor



You must keep time records!

Typical errors:

- Staff working on the project and sick or on holiday at the same time
- Hours claimed cannot be supported
- Impossible number of hours claimed



You must declare costs based on the actual amounts spent (AGA Article 5, Article 6(1))

- Personnel Costs based on actual staff costs
- Other direct costs based on actual costs for the project (AGA Article 6,2 D):
 - Depreciation costs for assets
 - Real costs of consumables
- Please declare all your costs (guidance to AGA Article 20) to mitigate potential disallowance



You must declare costs based on the actual amounts spent

Typical errors

- Declaration of the agreed budget for the project – the budget is a maximum amount, not THE amount or a price!
- Full costs of assets charged
- Internal charging system with no relation to real costs
- No demonstrated link of consumables to the project



You must demonstrate "best value" in purchasing (AGA Article 10) and sub-contracting (AGA Article 13)

- some level of tendering to demonstrate "best value" – e.g. tender, three offers, market survey
- We will normally accept your standard practices, when properly used
- We will normally accept commercial agreements already in place
- Naming the supplier in the contract does not mean that you do not have to demonstrate best value



You must demonstrate "best value" in purchasing and sub-contracting

Regular errors

- "best value" not demonstrated – no tender, no offers, no market survey
- Participants own normal practices not applied
- No documentation kept



Don't charge costs incurred
before the entry into force of the
Grant Agreement

(Unless an earlier start date is agreed with S2R JU)

AGA Article 3, Article 6(1)a(ii)



5 most common errors

1. Direct costs apportioned, not measured
 2. Time sheets (we hope no more hourly rates)
 3. Best value for money (subcontracting and purchase of goods)
 4. Basic vs additional remuneration
 5. In-house, near off-site, semi-permanent, teleworking consultants
- 5+. Same old friends: no papers, depreciation "in one shot"

Direct costs examples

Administrative staff members doing project accounting:

-> can I charge them to the project?

Yes, with time sheets...

I have a big multi-purpose equipment and I use it for several activities and projects:

-> can I charge its depreciation to an EC project as a % of total capacity based on my experience?

No. I have to measure its use.



**I work 100% on the project
so I don't have to fill in TS, correct?**

Correct, but pay attention:

- Did I spend a significant part of my time building up a network with other entities or other laboratories of my company, for future projects?
- Did I spend time in writing proposals for the next calls?
- Did I give lectures for the University?
- Did I travel for other unforeseen activities?
- What do I have to indicate in the box of the self-declaration requesting an indication of the activities carried out, per work package?



10

Time sheets examples

Timesheet needs to show at minimum:

1. Title and number of the project, as specified in the GA
2. Beneficiary's full name, as specified in the GA
3. Full name, date and signature of the person working for the project
4. Number of hours worked for the project in week/month covered by the time record,
& includes absences (sick leave, annual leave, workshop attendance, training...).
5. Supervisor's full name and signature & date
6. Reference to the project tasks or work package described in DoA
7. Brief description of the activities carried out, to show what work was done



Electronic timesheet:

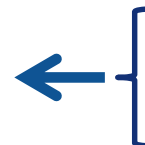
1. Electronic signature linking the electronic identity data with the electronic validation data require a password and user name
2. There is a documented secure process for managing user rights
3. An auditable log of all electronic transactions



Declaration for persons working exclusively on the action:

Model available in the AGA
(version 19/12/2014)

- ☐ the whole reporting period
- ☐ from/...../.....³ until/...../.....⁴
(This period must cover at least one full natural month)⁵



Declaration on a person working exclusively on a H2020 action

| Action | | | |
|---|-------------|------------------------|--|
| Title of the action (acronym) | | Grant Agreement number | |
| Beneficiary's/linked third party's name | | | |
| Reporting period covered by this declaration ¹ | | | |
| Reporting period number | from (date) | to (date) | |
| | | | |

This document certifies that² has worked for the beneficiary/linked third party exclusively on the above-mentioned H2020 action during (chose one below):

- ☐ the whole reporting period
- ☐ from/...../.....³ until/...../.....⁴
(This period must cover at least one full natural month)⁵

| Short description of the activities carried out during the period covered by this declaration | |
|---|------------|
| Reference (e.g. work package) | Activities |
| | |

SIGNATURES

For the beneficiary/linked third party (supervisor)

Name:

Date:/...../.....

Signature:

For the person working exclusively on the action

Date:/...../.....

Signature:



Only one declaration can be made per reporting period for each person



¹ Only one declaration can be made per reporting period for each person working in the action.

² Insert name of the person.

³ Insert date.

⁴ Insert date.

⁵ The person must keep timesheets for any hours worked for the action outside the period indicated herein.



Hours worked for the action

You cannot declare:

- Budgeted time (what you indicated for the budget)
- Estimated time (e.g. person 'guessing' at the end of the year)
- Time allocation (e.g. x % of the contractual time of the person)



Hours declared to the action must be supported by reliable records and documentation !



Best Value for Money errors...

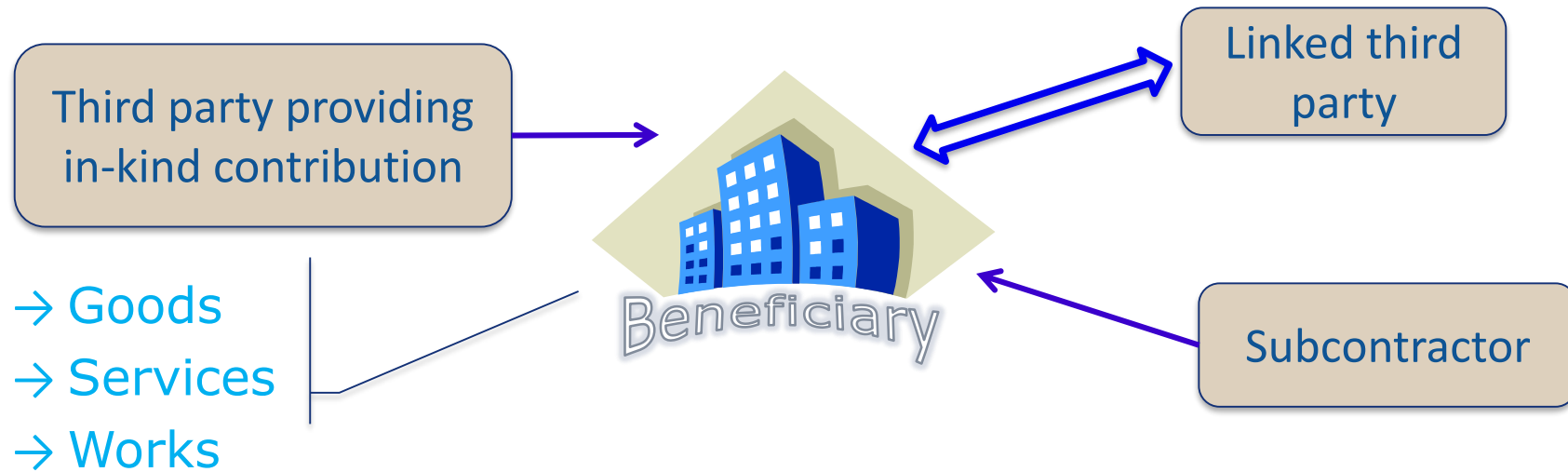
You must demonstrate 'best value for money' and take measures to avoid 'conflict of interests' in sub-contracting **and in Purchase of Goods**

Regular errors

- 'Best value' not demonstrated – no tender, no counter-offers, no market survey.
- Participants' own normal practices not applied.
- No documentation kept.
- Conflict of interests overriding any competition.



Third Parties' warnings



The beneficiary retains the sole responsibility for the work and the costs declared !

If something goes wrong with the third party, the beneficiary will be responsible.



Basic vs additional remuneration

A bonus scheme can be discretionary, yet based on objective conditions (merit, performance, potential – no matter how these are assessed by the boss - but as part of the usual remuneration policies, and documented). The scheme cannot be arbitrary or discriminatory, i.e. a bonus paid only if and when a researcher works on a H2020 project.



Consultants and similar

I have a contract with an Interim company for some personnel: can I charge the invoices issued by this Interim company as personnel costs?

No, the person must have a contract directly with the beneficiary.

I take advantage of a national law for temporary soft-recruitment tax-free, but I cannot impose TS or direct supervision: can I charge the costs as personnel?

No, but you can still charge their costs either as subcontractors or as service providers.



What you **CANNOT** declare under personnel costs?

- ❌ Contracts with companies (e.g. temporary work agencies) to provide staff.
- ❌ Natural persons (e.g. consultants) not fulfilling the conditions (hierarchical dependence, premises, similar cost for similar tasks, ownership of results).
e.g. working autonomously on the tasks assigned to them
- ❌ Natural persons (e.g. consultants) paid *for deliverables* rather than for *working time*



In the cases above the costs may be eligible under 'Other goods and services' or under 'Subcontracting' but never as personnel costs



- **7 – Amendments, legal basis**





7.1 – Legal Basis



Amendments General (1)

Article 55 AGA

WHAT ?

An amendment to the grant agreement is necessary to **change** only specific data, options, **Annexes 1 and 2**

Consequences

The amended provisions **become an integral part of the GA**

All other provisions remain unchanged and have full effect



Amendments General (2)

- An amendment is necessary whenever there is a need to change the GA
- Amendments may NOT result in changes that would have had an impact on the award decision.
- The general terms and conditions of the GA can NOT be changed via amendment.
- The amendment will take effect either on the day of its entry into force or on the specific date(s) indicated in the amendment.



Amendments: When?

Requests will be introduced **before the end of the action** (i.e. date set out in Article 3)

Exception: After the end of the action in exceptional cases
(e.g. change of coordinator/bank account to make
the payment of the balance)

Requests will be submitted **sufficiently in advance**
(to allow preparation and proper analysis before the changes are
due to take effect)



Coordinator submits & signs amendments on behalf of the beneficiaries (Annex 3 – Accession Form)

***Exception:** if change of coordinator without his/her agreement, request must be done by another beneficiary (acting on behalf of the other beneficiaries)*

Coordinators must ensure internally the agreement of the consortium based on their internal decision-making processes

(e.g. unanimity, simple or qualified majority etc. set out in the consortium agreement)



H2020

Amendments

are PAPERLESS

Prepared electronically

Requesting party will encode the amendment request

- * Indicate the reasons
- * Upload the supporting documents
- * Get validations done before submitting the request

(e.g. new legal entity, new bank account validations)

Submitted & signed electronically (by PLSIGN)

Counter signed electronically by receiving party (by PLSIGN)





7.2 - Cases where an amendment is necessary (some examples)



1. Removal of a beneficiary whose participation is terminated (Article 50.2 and 50.3)

- **If it never became a beneficiary:**
 - non-accession to GA, or
 - non-provision of requested declaration on joint and several liabilityBeneficiary is removed from the beginning
- **For other reasons set out in Article 50**
- Annexes 1 and 2 will be changed.
- If the coordinator is removed, the amendment has to propose a new coordinator.
- LTP participating with the beneficiary will be automatically removed.



2. Adding a new beneficiary

- New beneficiary must be validated and have a PIC before the submission.
- New beneficiary and accession date are added to the Preamble of GA. It is possible to choose between the date of the signature of the accession form; the date of entry into force of the amendment or a fixed date (future or retroactive).
- Annexes 1 and 2 will be changed.
- Depending on type of beneficiary (e.g. JRC, IO) and if it was/was not receiving EU funding options will be added/modified/become applicable



3. Change of coordinator

- 'Handover date' will be added in the Preamble of the GA
- There is NO need for an amendment to change the *person* in charge of the coordination of the project.
- Amendment request can be submitted after the end date of the action (e.g. coordinator in bankruptcy)

4. Change of bank account for payments

- Banking information must be validated before submitting the request

5. Change of the option for 'authorisation to administer'

- Option in Article 41.2 is added/removed/modified (e.g. change of name of the entity with an 'authorisation to administer')



6. Change to Annex 1 (description of the action)

- Significant change of the action tasks (e.g. if tasks are added/removed) or their division among the beneficiaries
- Changes concerning in-kind contributions provided by third parties (against payment or free-of-charge) or subcontracts
- Changes concerning the tasks to be carried out by linked third parties and related costs
- Changes to the options in the GA (e.g. options are removed or added)
- Example: adding the options to provide trans-national access to research infrastructure requires normally a modification of Annex 1 and/or Annex 2



7. Change to Annex 2 (estimated budget)

- Budget transfer between beneficiaries or budget categories (or both) due to a significant change of Annex 1
- Budget transfer to a form of costs that is not provided for in Annex 2

*Examples: from actual costs to the unit costs for SMEs owners
from actual costs to average personnel costs*

8. Change of Annex 2a: 'Additional information on the estimated budget'

If the calculation of the unit costs needs to be provided or updated



1. Change of name, address, or other legal entity data of the coordinator, beneficiary, linked third party

2. Change of beneficiary due to universal takeover

(In FP7: 'universal transfer of rights and obligations')

3. Changes to name of the bank, address of branch and name of account holder

(validation of this data on the PP by the S2R JU is sufficient)





7.3 – Amendment procedure



Amendment Procedure (1)

After submission of request the receiving party has **45 days** for **'evaluation and validation'** (may exceptionally be extended)

Withdrawal

Agreement

Rejection

Request for additional information

Extension of the deadline for assessment

If no reaction within deadline, tacit rejection



Amendment Procedure (1)

A request containing several changes to the GA will be considered as a **package and:**

- it cannot be divided into several requests;
- request will be agreed or rejected as a whole;
- cannot be modified.

If there is **no reaction** within this deadline the request is considered to have been rejected

There is **no tacit approval of amendments** (contrary to FP7)



Entry into force and taking effect

- An amendment **enters into force** and is binding from the moment the receiving party signs it (in the electronic exchange system)
- An amendment **takes effect** (the changes will start to apply):
 - when the amendment enters into force, or
 - on the date agreed by the parties

This date should normally be **after** the entry into force

If an amendment request involves several changes, they could take effect on **different dates** (*e.g. addition of beneficiary and change of bank account*)

Depending on the type of change, the date of taking effect may have an **impact on the eligibility of costs**



- **8 – Communication and dissemination**



➤ Important for S2R! (and obligation on the GA)

- Communications plan in the proposal and the grant agreement
- Promote your project and its results beyond the project's own community
- Communicate your research in a way that is understood by non-specialists, e.g. to the media and the public
- Inform us in advance of communication activities expected to have a major media impact

➤ Communication ≠ dissemination

- Dissemination is a separate obligation (e.g. through scientific articles and conferences)



- **See article 29 of the GA**
European Union / S2R support shall be highlighted
 - JU logo and the EU emblem to be displayed
 - Disclaimer to be added on any communication (publicity reflects the author's view and the JU is not liable of any use ...)
- **Right for the S2R JU to publish information on the project**
 - The consortium shall ensure that all necessary authorisations for such publications have been obtained
- **Confidentiality:**
 - During the project and for a period of 5 years after completion



Communication and dissemination

- Inform the JU PM and communication unit of any participation in conferences/events, new videos, dissemination action, etc... We can help!
 - The planning of mid-term conference and final conferences need to be agreed with the S2R JU, so that we can have a Programme approach
 - Try already to check with your complementary project for synergies in this respect
 - If you are planning to develop a project logo (non compulsory for S2R), this needs to contain “a Project of the S2R JU” in the logo itself
- Please note that if the dissemination/communication actions foreseen by the Grant Agreement or requested by the S2R JU in the points above are not implemented, the S2R JU will reduce the S2R JU contribution to the project accordingly to art.29.6 of the GA (reduction can reach 100% of GA contribution)



Use of S2R label and position

Extracts from S2R Governance and Process Handbook:

Projects documents with the S2R logo **can only represent a S2R position* if the following conditions are all met:**

- a) There is an agreement within the Project and following the Project decisional procedure
- b) There is an agreement within the respective IP/CCA SteCo
- c) There is an official agreement from the S2R JU, through a written confirmation of the S2R ED

Similarly, any Project beneficiary or S2R Member **can only officially represent a S2R position* if:**

- the conditions a, b and c above are all met in case of a Project beneficiary
- the conditions b and c above are all met in case of a S2R Member

The Project Coordinator or the concerned S2R Member will need to promptly inform the S2R Programme Manager assigned to the Project or the S2R Head of R&I should such cases arise.

**List of official S2R positions available in Annex G*



Thank you

imagine, together we make it...

