



# H2020 ICT 2016-17 Work Programme

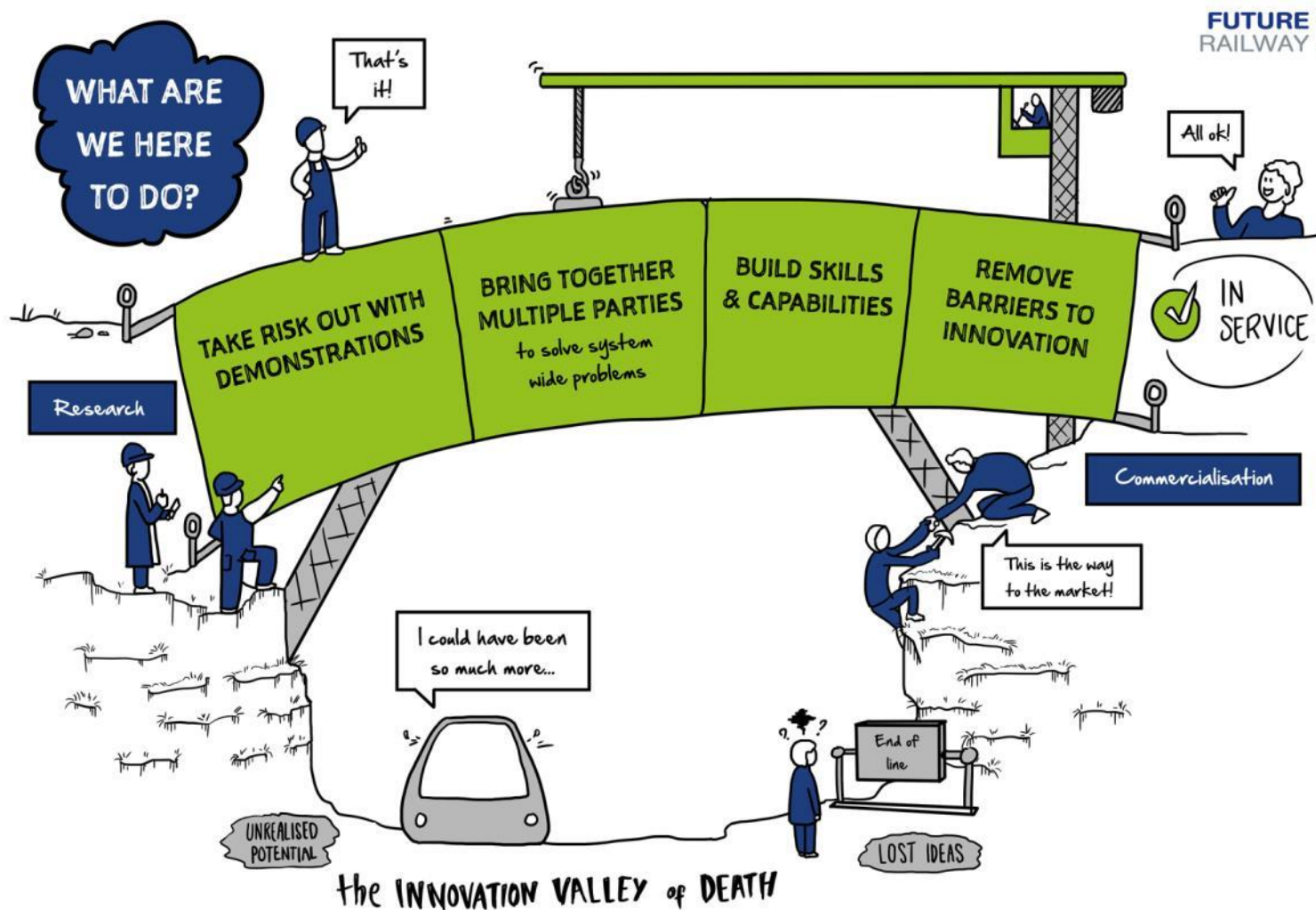
## Opportunities for Railway R&I

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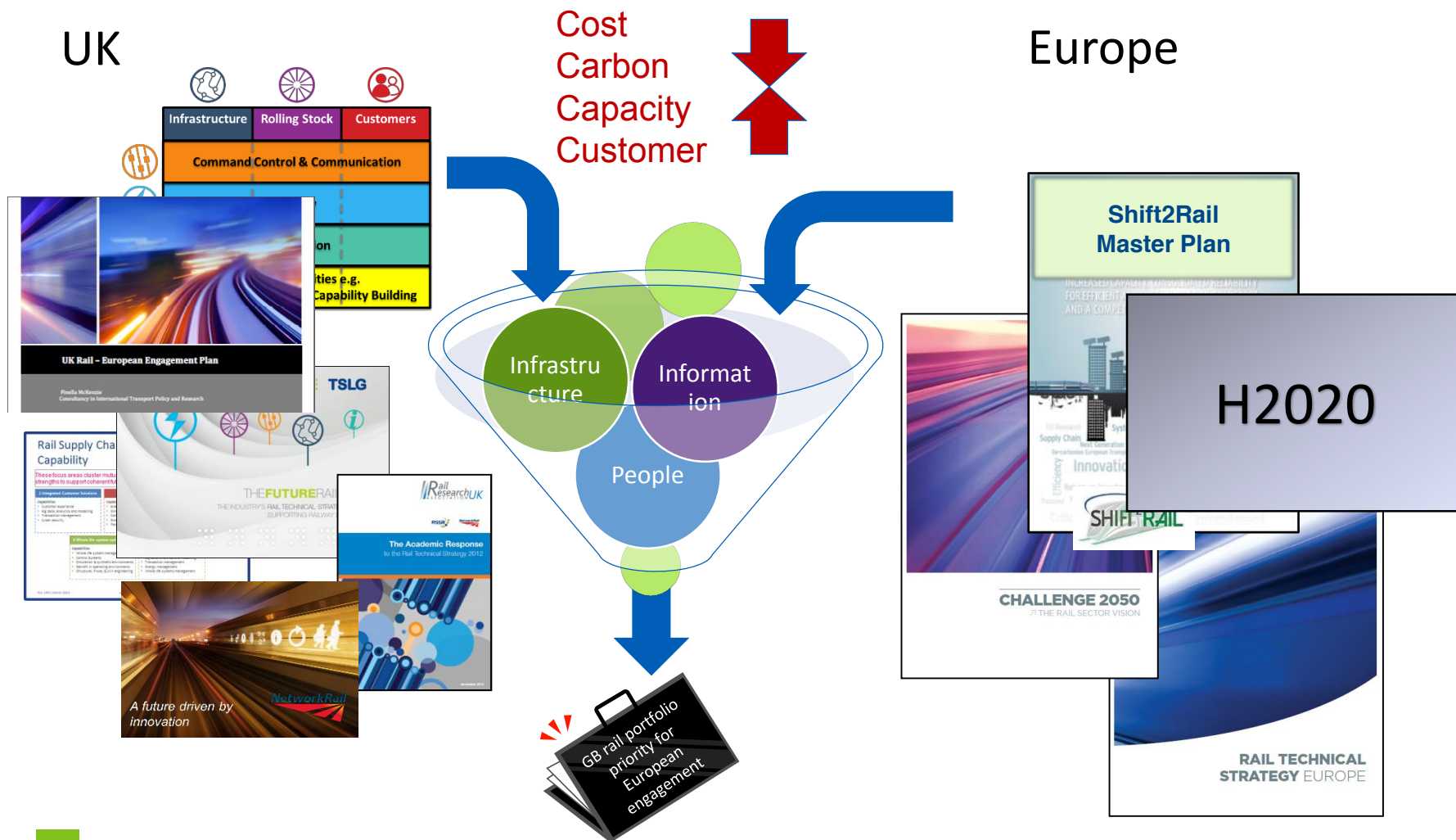
Innovation Directorate , RSSB

30 Oct 2015

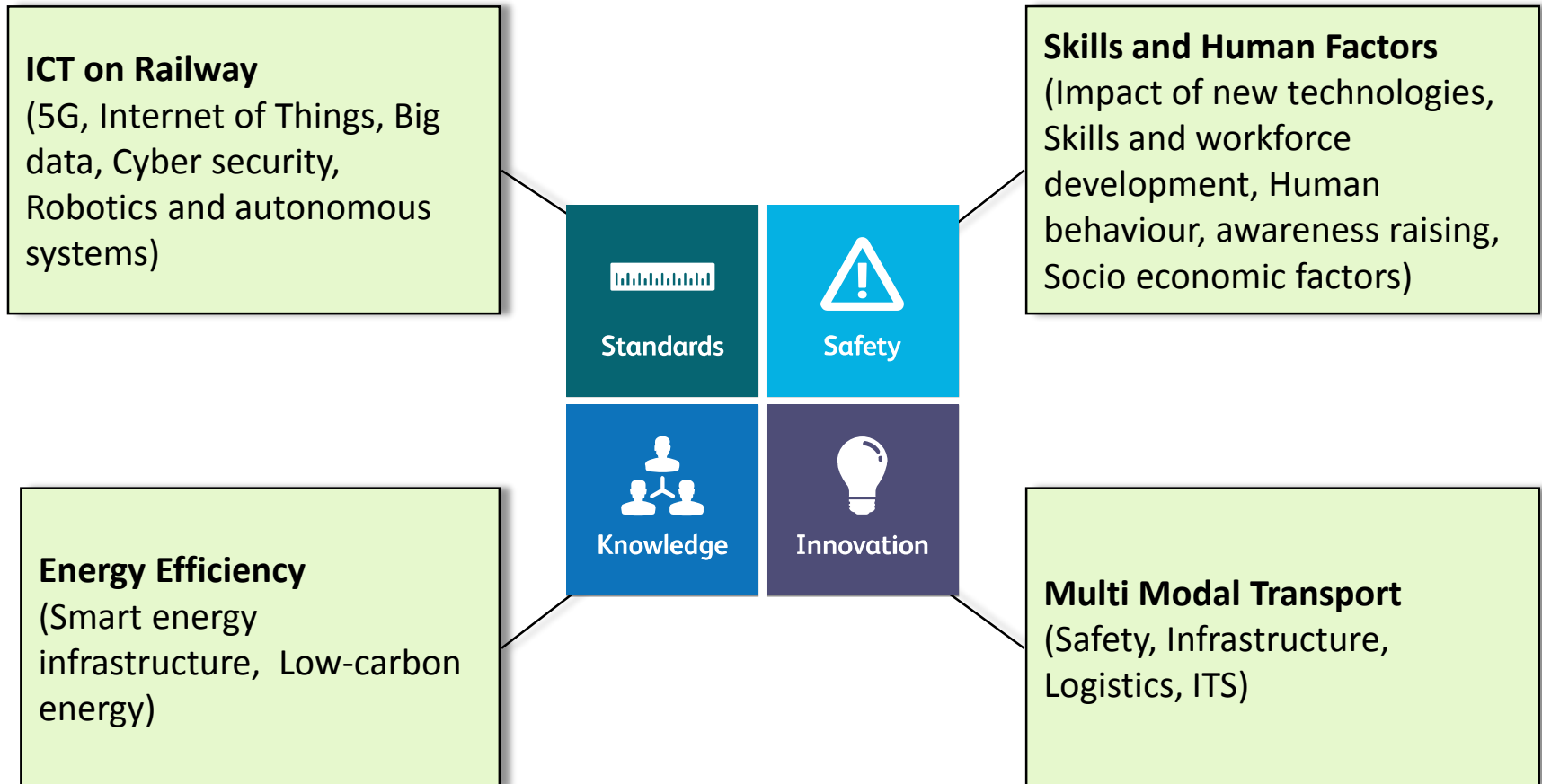
# FutureRailway - What we do



# European Engagement @ FutureRailway



# H2020 Collaboration – Priority Areas



# ICT on Railway: Potential R&I Topics for H2020 Collaborations

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- Enhancing customer experience on rail travel
  - improved mobile broadband services on trains (coverage, capacity and speed)
  - real-time customer information services (context-aware, cross-modal, cross-sector, cross-lingual)
  - seamless multi modal end-to-end customer experience
  - crowd-sourcing useful customer information
- Remote condition monitoring
  - autonomous asset monitoring and maintenance
  - predictive capacity planning and supply
  - improved security and safety
  - intelligent passenger flow management, passenger assist

## ICT on Railway ...

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### ■ Cyber security

- ensuring that rail communication systems are secure from a digital and a physical point of view
- ensuring that remote condition monitoring is robust to ensure the integrity of the data transmitted
- privacy and trust models for complex railway stakeholder chain
- security and privacy of passengers (personal data, financial data, journey data)

### ■ Robotics and autonomous system

- autonomous railway asset monitoring and maintenance
- passenger assist

# 2016-17 ICT Call Topics – Opportunities for Railway R&I

Call	Topics of Interest
A new generation of components and systems	<ul style="list-style-type: none"> <li>• ICT-01-2016: Smart Cyber-Physical systems</li> </ul>
Advanced computing and cloud computing	<ul style="list-style-type: none"> <li>• ICT-06-2016: Cloud Computing</li> </ul>
Future Internet	<ul style="list-style-type: none"> <li>• ICT-07-2017: 5GPP Research and validation of critical technologies and systems</li> <li>• ICT-11-2017: Collective awareness platforms for sustainability and social innovation</li> </ul>
Content	<ul style="list-style-type: none"> <li>• ICT-14–2017: Big data PPP: Cross-sectorial and cross-lingual data integration and experimentation</li> <li>• ICT-15–2017: Large scale pilot projects in sectors best benefiting from data-driven innovation</li> <li>• ICT-16–2017: Big data PPP: research addressing main technology challenges of the data economy</li> <li>• ICT-17-2016–2017: Big data PPP: Support, industrial skills, benchmarking and evaluation</li> <li>• IC-T18–2016: Big data PPP: Privacy-preserving big data technologies</li> </ul>

# 2016-17 ICT Call Topics – Opportunities for Railway R&I...

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Call	Topics of Interest
Robotics and Autonomous Systems	<ul style="list-style-type: none"><li data-bbox="803 446 1750 518">• ICT-25-2016-17: Advanced robot capabilities research and take-up</li><li data-bbox="803 532 1676 604">• ICT-26–2016: System abilities, development and pilot installations</li><li data-bbox="803 618 1779 689">• ICT-27-2017: System abilities, SME &amp; benchmarking actions, safety certification</li><li data-bbox="803 704 1804 746">• ICT-28-2017: Robotics competition, coordination and support</li></ul>
Responsibility and Creativity	<ul style="list-style-type: none"><li data-bbox="803 775 1769 846">• ICT-35-2016: Enabling responsible ICT-related research and innovation</li></ul>

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# 2016-17 Space Call Topics – Opportunities for Railway R&I

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Call	Topics of Interest
Applications in Satellite Navigation - Galileo	<ul style="list-style-type: none"><li data-bbox="799 438 1831 482">• GALILEO-1–2017: EGNSS transport applications</li><li data-bbox="799 482 1831 535">• GALILEO-2–2017: EGNSS mass market applications</li></ul>

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# 2016-17 Focus Area – Opportunities for Railway R&I

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Call	Topics of Interest
Internet of Things	<ul style="list-style-type: none"><li>• IoT-01-2016: Large scale pilots</li><li>• IoT-02-2016: IoT Horizontal activities</li><li>• IoT-03-2017: R&amp;I on IoT integration and platforms</li></ul>
Smart and Sustainable Cities	<ul style="list-style-type: none"><li>• SCC-1-2016-2017: Smart Cities and Communities lighthouse projects</li></ul>

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## Further Information

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- ICT calls
  - Single stage proposals
  - 2016 call deadlines: 20/04/2016, except 5GPPP which is 08/11/2016
- Horizon 2020 web site
  - <http://ec.europa.eu/programmes/horizon2020>
- Participants portal
  - <http://ec.europa.eu/research/participants/portal>
- Horizon2020 2016-17 ICT Work Programme
  - [http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016\\_2017/main/h2020-wp1617-leit-ict\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-leit-ict_en.pdf)
- Horizon 2020 UK National Contact Point - ICT & FET
 

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## ICT communities influencing H2020 call topics

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- 5G Public Private Partnership (PPP) – dedicated for 5G system
  - <http://www.5g-ppp.eu>
- Alliance for Internet of Things Innovation (AIOT)
  - <http://www.aioti.eu/>
- Big Data Value Association (BDVA)
  - <http://www.bdva.eu/>
- euRobotics =>SPARC PPP
  - <http://www.eu-robotics.net/>
  - <http://sparc-robotics.eu/about/>
- Electronic Components and Systems for European Leadership – Joint Undertaking
  - [www.ecsel.eu](http://www.ecsel.eu)

## Rail industry's engagement in ICT through H2020 (expected)

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- Do not wait for novel ICT solutions to come to market, then adapt/further develop them for rail – be engaged with ICT R&D from the early stage to get the most benefits out of future ICT systems / solutions
- Engage with ICT communities (e.g. 5GPPP, AIOTI, BDVA, SPARK, etc.) as a strong vertical industry
- Put forward challenging requirements and use cases from railway for ICT research and innovation
- Undertake rail relevant research and innovation in ICT
- Take part in pilot demonstrations for evaluating and ensuring the benefits for the rail industry

## Wrap-up

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- Numerous opportunities for rail industry in ICT call topics (as requirements provider, rail system/data owner, researcher, innovator, end user, etc.)
- Active engagement with ICT communities as a strong vertical industry (end user) for influencing the future ICT solutions and standards for the rail industry
- ICT calls are single stage – be ahead of the game
- RSSB will support stakeholders on call topics contributing to the delivery of RTS objectives – be engaged with RSSB European engagement team
- Detail call information – Horizon 2020 web site !



# Thank you...

Make the most benefits from ICT developments for railway!

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