



# Horizon 2020

## Smart, Green and Integrated Transport in



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- 2014 - 2020
- Brings together EU 'Innovation' related activities
  - Framework Programme
  - European Institute of Technology (EIT)
  - Competitiveness and Innovation Programme (CIP)
- Broad and seamless approach to innovation
- Simplified set of rules



What is Innovation ?



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# Budget Proposal

## 1) Excellent Science

(26.2 bEur)

- European Research Council (ERC)
- Future and Emerging Technologies
- Marie Curie
- Infrastructures



## 2) Industrial Leadership

(19.1 bEur)

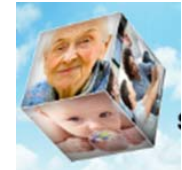
- RTDI in
  - ICT
  - Nanotechnologies
  - Advanced materials
  - Biotechnology
  - Advanced manufacturing and processing
  - Space
- Access to risk finance
- Innovation in SMEs



## 3) Societal Challenges

(33.8 bEur)

- Health and well-being
- Food
- Energy
- Transport (7.2 bEur)
- Climate change
- Secure society



JRC (0,24 bEur)

**Total 79,4 bEur**

~ 15% of EU funds for SMEs in 2) and 3)





# Excellent Science

- Support the most talented and creative individuals and their teams to carry out **frontier research** of the highest quality by building on the success of the **European Research Council**;
- Fund collaborative research to open up new and promising fields of research and innovation through support for **Future and Emerging Technologies (FET)**;
- Provide researchers with excellent training and career development opportunities (**also internationally**) through the Marie Skłodowska-Curie actions ('**Marie Curie actions**');
- Ensure Europe has world-class **research infrastructures** (including e-infrastructures) **accessible to all researchers in Europe and beyond**



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# Industrial Leadership

- Build leadership in **enabling and industrial technologies**, with dedicated support for:

ICT,

nanotechnologies,

advanced materials,

biotechnology,

advanced manufacturing and processing, and

space,

while also providing support for cross-cutting actions to capture the accumulated benefits from combining several Key Enabling Technologies;

- Facilitate access to **risk finance**;
- Provide Union wide support for innovation in **SMEs**.

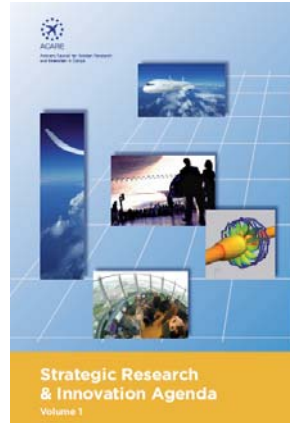
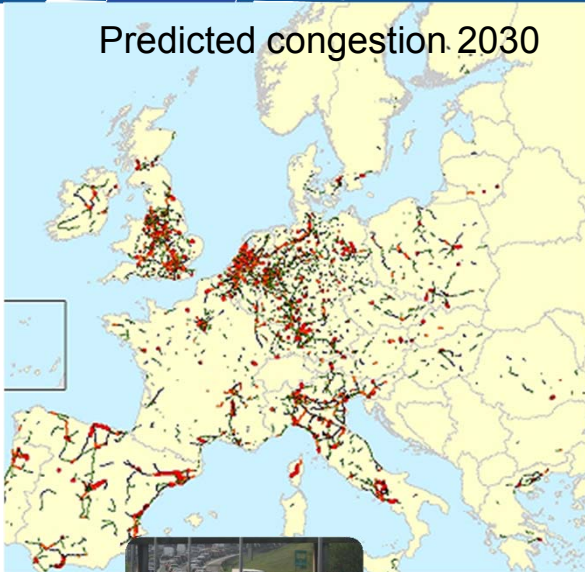


# Societal Challenges

- Health, demographic change and wellbeing;
- Food security, sustainable agriculture, marine and maritime research and the bio-economy;
- Secure, clean and efficient energy;
- **Smart, green and integrated transport;**
- Climate action, resource efficiency and raw materials;
- Inclusive, innovative and secure societies.0

# Why a Societal Challenge on Transport ?

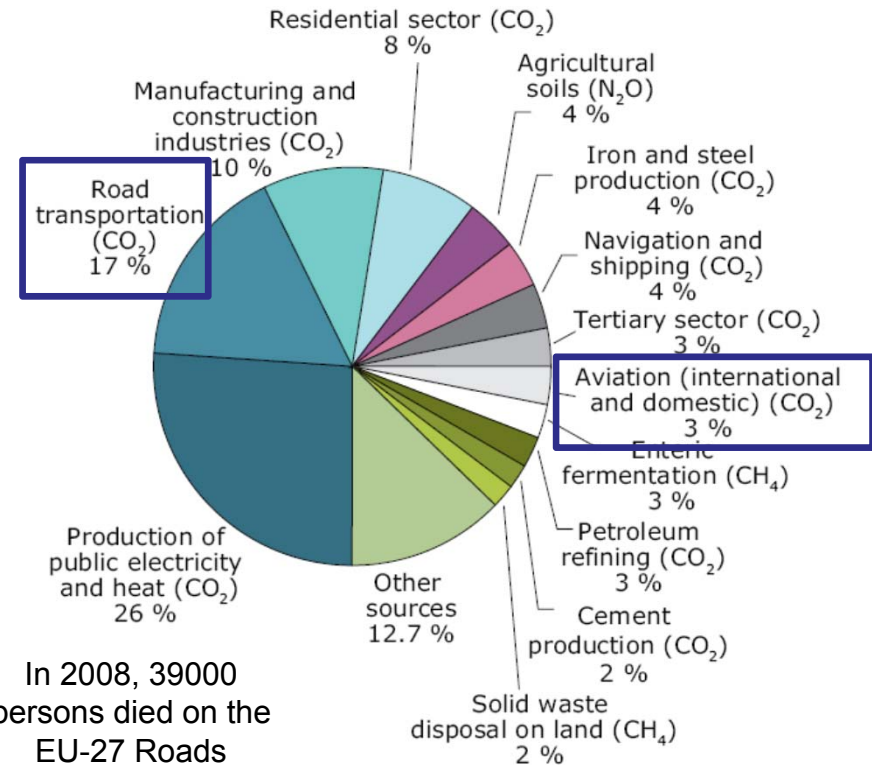
Predicted congestion 2030



4 hours door to door in 2050 ?

Air Passenger Traffic increasing by 4-5% every year

- Increasing/ changing Transport needs
- Reducing congestion
- Improving accessibility
- Reducing impact on the environment
- Oil prices - dependency on oil
- Safety

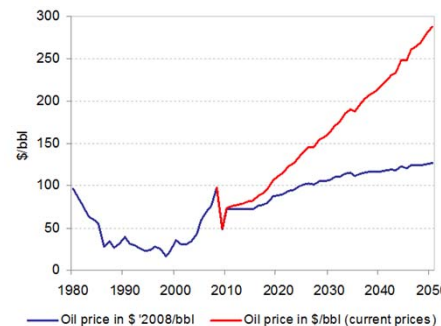


In 2008, 39000 persons died on the EU-27 Roads

GHG Emissions in the EU27 (2007)

Transport: CO<sub>2</sub> emission reduced by 60 %, 2050 (WHITE PAPER Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system(2011))

Transport in the EU  
6.3% EU GDP  
13 million jobs





# Smart Green and Integrated Transport

## Specific Programme

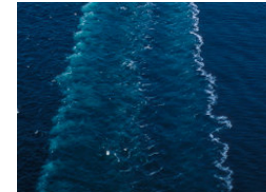
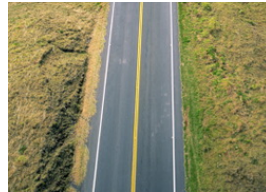
- Resource Efficient Transport that respects the **Environment**
- Better **Mobility**, Less Congestion, more **Safety**, more **Security**
- Global **Leadership** for the European Transport Industry
- Socio-economic Research and Forward Looking Activities for Policy Making





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# Resource Efficient Transport that Respects the Environment



## More Efficient Vehicles

Lightweight Material

Hybrid Vehicles

Smart Vehicles

Electric Vehicles

Grids

Optimisation of Traffic

Alternative Fuels and Energies

Energy Recovery

Lightweight material

Intelligent Transport Systems

Recyclable vehicles

Clean Engines

Green Operations

Low Noise Technologies

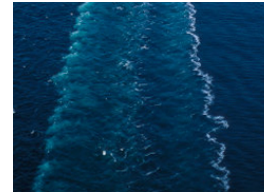
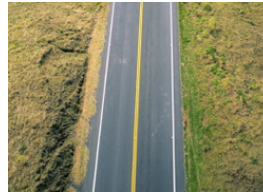
Optimisation of Logistic Platforms

Eco, Clean and Low Energy Consumption Infrastructures



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# Better Mobility Less Congestion more Safety and Security



Single European Sky

Modal Shift

Seamless Multimodal Travel

Paperless e-Freight

Cooperative Road Traffic Management and Information Systems

Integrated planning and management for maritime (Blue Belt)

Integrated solutions for Travellers and Freight

Intelligent Transport Systems

Resilience to crisis (e.g. weather hazards)

Ageing Population

Vulnerable Users

New Mobility Concepts

Certification

System Wide Safety and Security

Automated systems

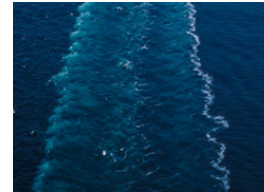
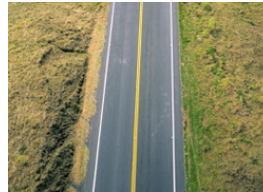
Training

Safety integrated in the Design Phase

# Global Leadership for the Transport Industry



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Green is Competitive

New Configurations

Innovative Vehicles

Innovative- User Friendly  
Solutions for Transport

Flexible Automated Production Cells

Capacity to Manage  
Systems of Systems

Fast Right First Time Design Techniques

Integrated Design Manufacturing Assembly

Efficient Certification

Fast, Low Cost Lean  
Manufacturing

Standardisation

Maintenance Free



# Large Initiatives

## Public-Private-Partnerships (PPPs)



(Green Demo) Clean Sky 2 ?

(ATM) Sesar Extension ?



Green Cars -> Green Vehicles ?

A PPP for Rail ?

## Cross-thematic calls

Ocean of Tomorrow





# Flightpath 2050

Europe's Vision for Aviation  
Maintaining Global Leadership &  
Serving Society's Needs

- **Challenge 1: Meeting Societal and Market Needs**
- **Challenge 2: Maintaining and Extending Industrial Leadership**
- **Challenge 3: Protecting the Environment and the Energy Supply**
- **Challenge 4: Ensuring Safety and Security**
- **Challenge 5: Prioritising Research, Testing Capabilities and Education**

Flightpath 2050 was presented at Aerodays in Madrid 30/03-01-04 2011

see <http://ec.europa.eu/research/transport/publications>

# From Flightpath 2050 to SRIA



Vision

Challenges

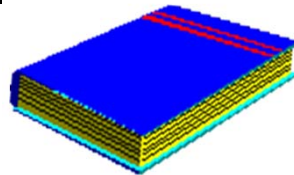
Goals

Why

Aviation Statistics   Airports   European Commission   Research & Academia   Manufacturing Industry   Member States   Regulators

**Who**

Vol 1 Exec Sum  
for  
Policy Makers



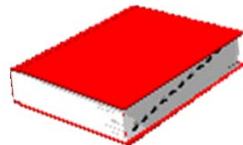
Vol 1 for R&I  
Policy Makers

Enablers  
Interpreting & Understanding

What

Capabilities  
Knowledge & Functionality

How



Vol 2 for  
R&I Programme  
Managers

Metrics  
Achievements & Timing

When

Research  
Concepts, Services & Technologies

With what

<http://www.acare4europe.org/sria/>

Ongoing	<b>Negotiations</b> of <i>Horizon 2020</i> and total EU budget (2014-2020) by European Parliament and European Council
Mid-2012	<b>Final calls FP7</b> for research to bridge the gap towards <i>Horizon 2020</i> ( <i>FP7 Aeronautics calls already finished</i> ).
Mid-2013	<b>Adoption</b> of legislative acts by European Parliament and European Council of <i>Horizon 2020</i>
1 January 2014	<b><i>Horizon 2020 starts</i></b> , launch of first calls

First H2020 Transport Work-Programme preparation on-going to cover:

- First call (2014)
- Second call (2015)

plus rough indications on third call (2016).



# New strategy for international cooperation in research and innovation

Need to engage **more actively and strategically** in international cooperation:

- Three main **objectives**:
  - Tackle global societal challenges
  - Strengthen excellence and attractiveness in research and innovation as well as industrial and economic competitiveness
  - Support the Union's external policies
- Combining **openness** with better **targeted actions**
- Strengthened partnership with **Member States**
- Stronger contribution of research and innovation to **external policies of the Union**



# More Information ...



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The screenshot shows the Horizon 2020 website homepage. At the top, there is a blue header with the European Commission logo and the text 'RESEARCH & INNOVATION Horizon 2020'. Below this is a navigation bar with links: Home, What is Horizon 2020?, What's in Horizon 2020 for me?, Why Horizon 2020?, What's next?, What's your view?, and Press corner. The main banner features a 'COUNTDOWN 550 DAYS' logo and the text 'HORIZON 2020 THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION'. The content is organized into a grid of six colored boxes, each with a title and a list of links:

- What is Horizon 2020?** (Red box):
  - The EU Framework Programme for Research and Innovation
  - Official documents
  - Questions & Answers
- What's in Horizon 2020 for me?** (Orange box):
  - Excellent Science
  - Competitive Industries
  - Better Society
- Why Horizon 2020?** (Green box):
  - Europe 2020
  - Public consultation
  - Successful EU research
- What's next?** (Dark Blue box):
  - A time line for Horizon 2020
  - Calendar of events
- What's your view?** (Teal box):
  - Video testimonials

Below this link is a small video thumbnail of Niels Freese.
- Press corner** (Yellow box):
  - Press materials
  - Country profiles and featured projects
  - Videos by theme

At the bottom of the page, there are social media icons for RSS, Facebook, and Twitter.

<http://ec.europa.eu/research/horizon2020>



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Thanks for your attention & Good cooperation in H2020 !



Tiit Jürimäe  
European Commission  
DG Research & Innovation  
Aeronautics

