Program Review Days 2014
Cross-cutting projects

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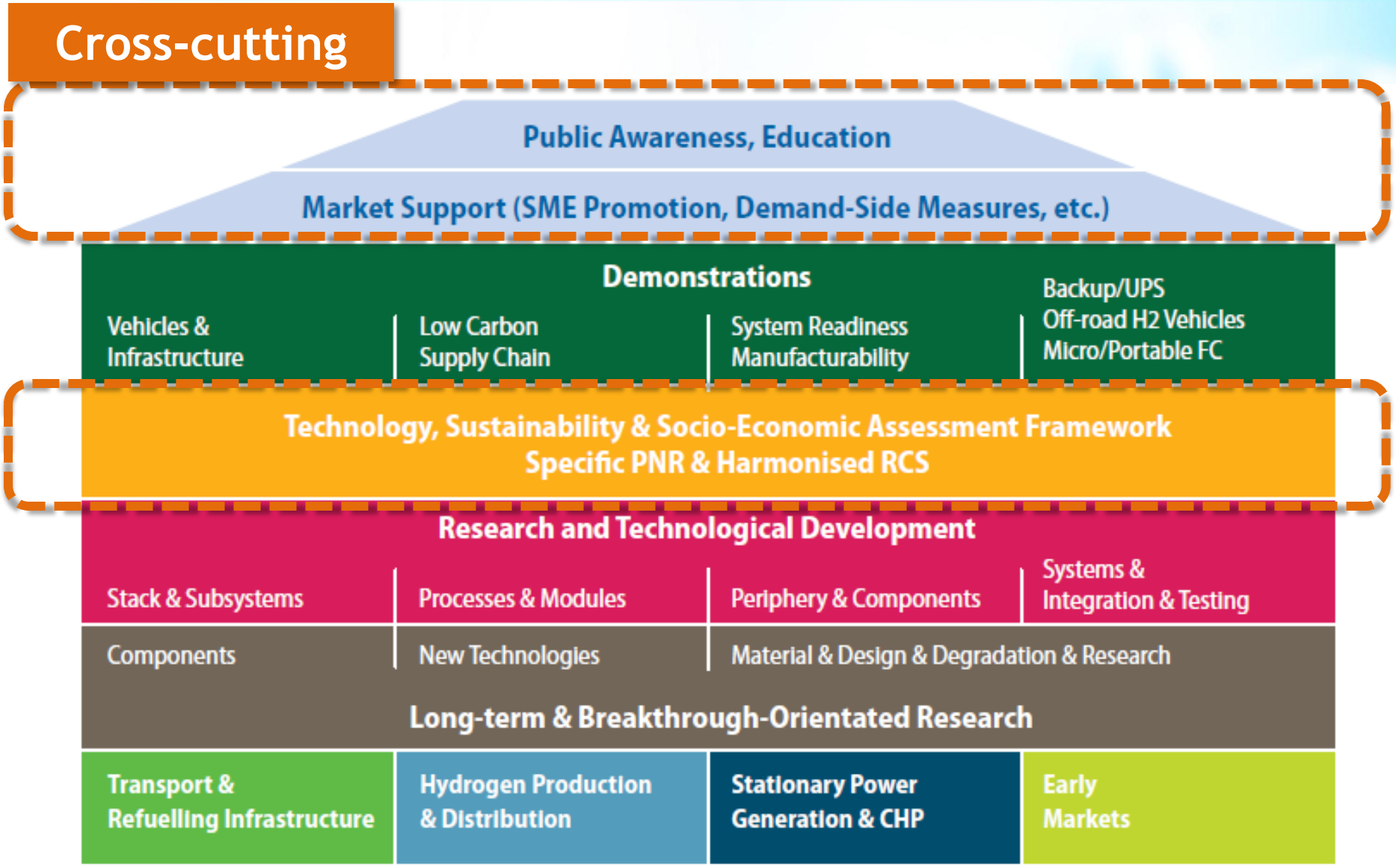
Outline of the session on Cross-Cutting

- Cross-cutting project portfolio
- Project Presentations:
  - H2SENSE - Thomas Hübert (BAM)
  - H2TRUST - Lourdes Vega (MATGAS)
  - MATHRYCE - Laurent Briottet (CEA/LITEN)
  - Financing Study – Nicola Brahy (FCH-JU)

Multi-Annual Work Programme 2014 - 2020

- **Energy pillar + Transport pillars + Cross-Cutting horizontal activities**
- **What is expected from Cross-Cutting activities?**
  - To provide **information, education, political support and societal acceptance** for hydrogen and fuel cell technologies;
  - To promote innovative **safety** strategies and solutions that support both Pillars
  - To support the implementation of an industry-led **RCS coordination group**
  - To liaise with **international organisations** on RCS and overarching developments at an early stage.
  - (…)

Multi-Annual Implementation Plan
2008 - 2013

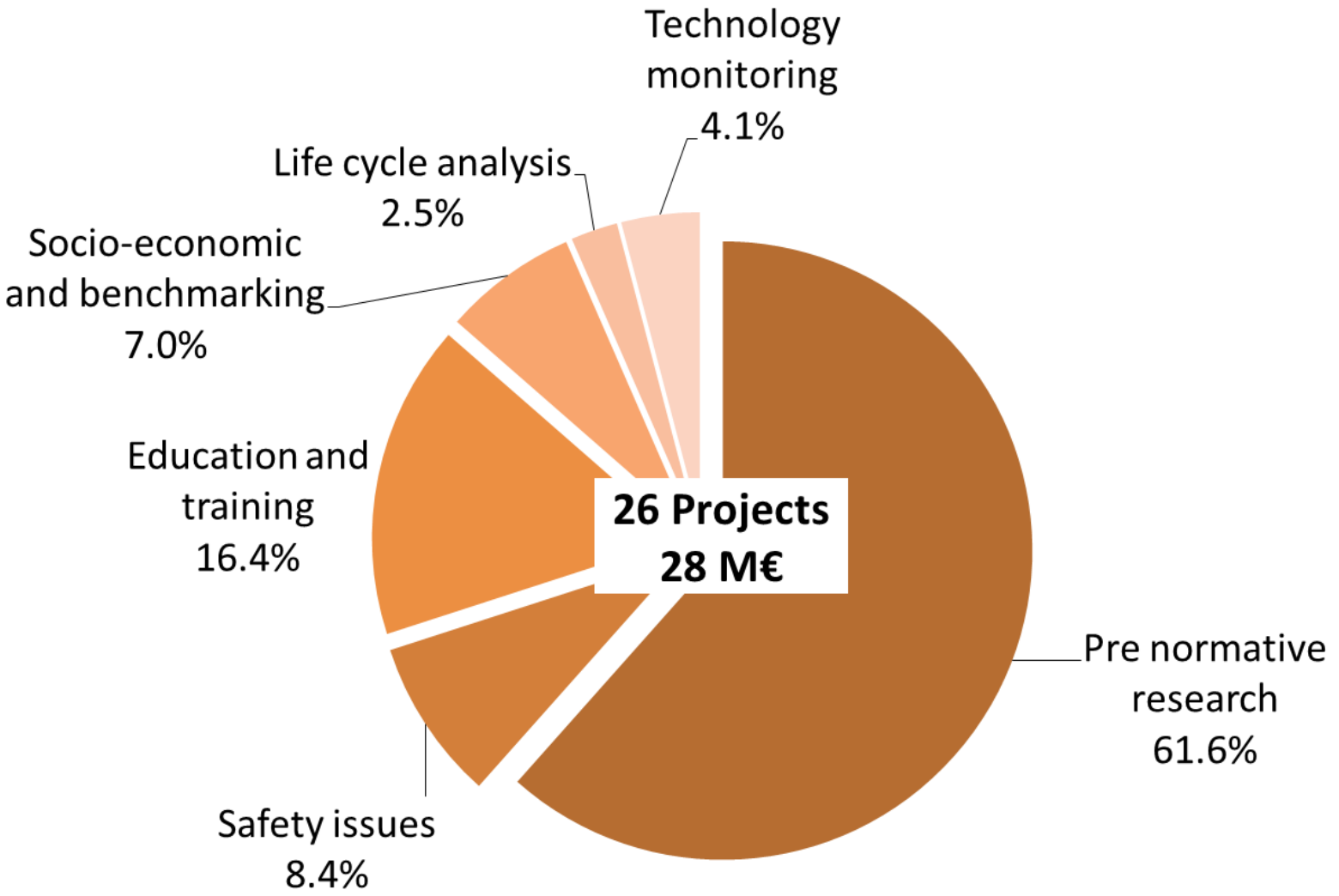


Overview of Cross-Cutting projects

- **28 M€** of FCH JU contribution:
  - 6.4% of the total FCH JU budget 2008-2013

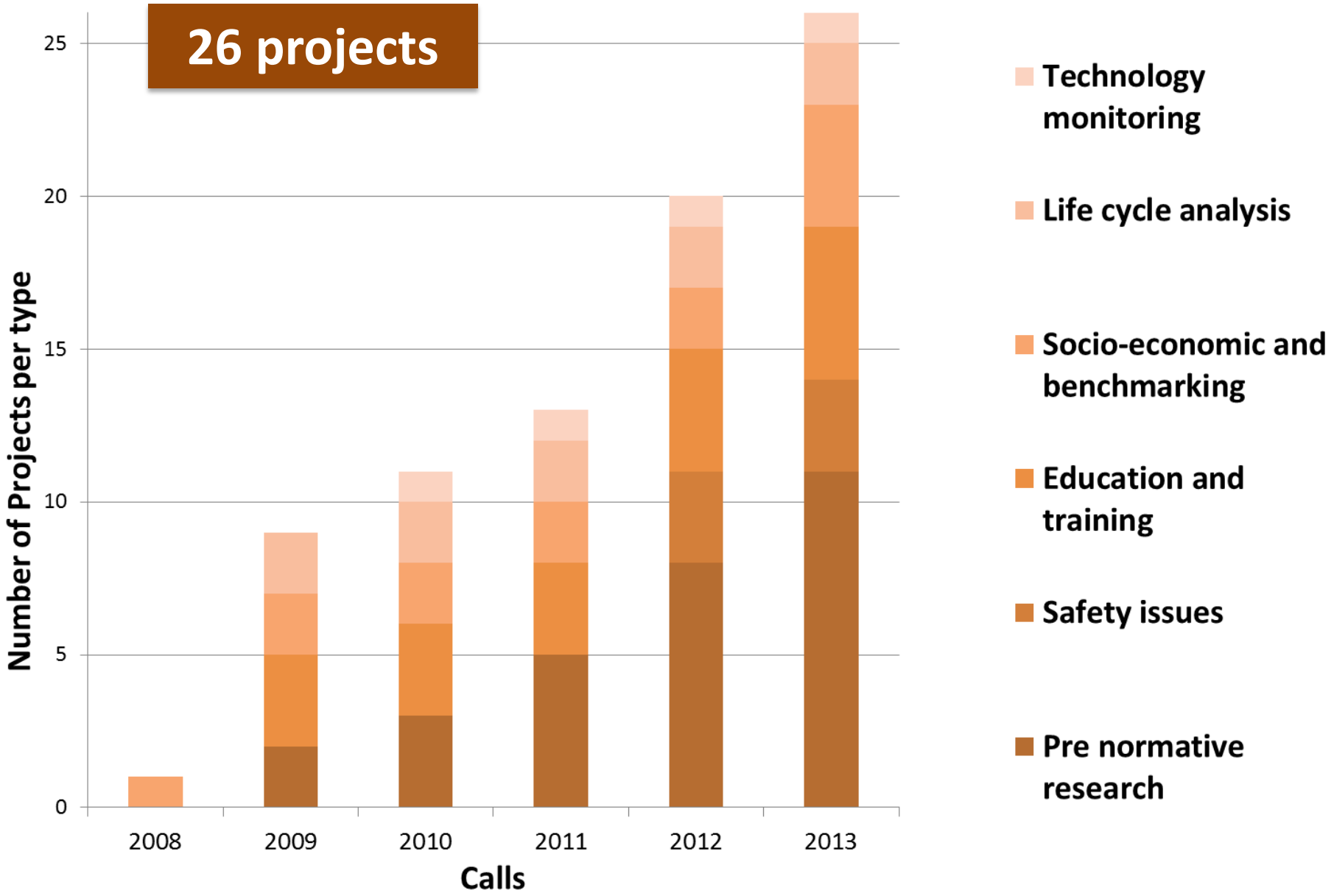
- **26 projects** funded on cross-cutting issues:
  - 17 projects on-going and 9 projects finished

Overview of Cross-Cutting projects



FCH JU Contribution/M€ per CC activities

Overview of Cross-Cutting projects



Overview of Cross-Cutting projects

- Pre Normative Research (11)
  - Material testing (3 on-going + 1 finished)
  - Stack testing (2 on-going)
  - H_2 quality and measurement (1 on-going + 2 finished)
  - Refueling (1 on-going)
  - Indoor use (1 on-going)
- Education (2 on-going + 3 finished)
  - Vocational (1 on-going +1 finished)
  - Post-grad (1 finished)
  - Public safety officials (1 finished)
  - First responders (1 on-going)

Overview of Cross-Cutting projects

- Safety (2 on-going + 1 finished)
  - Knowledge assess. (1 on-going)
  - CFD evaluation (1 on-going)
  - H2 sensors (1 finished)
- Socio-economic (2 on-going + 2 finished)
  - Social acceptance (1 on-going)
  - Roadmaps (1 finished + 1 on-going)
  - Benchmarking (1 finished)
- Technology monitoring (1 finished)
- LCA (2 finished)

Deliverables

- PNR is key to support Energy and Transport applications:
  - PEM FC and SOFC/SOEC **Stack Reference Test** (StackTest and SOCTESQA)
  - Testing and Design of components exposed to **Hydrogen Enhanced Fatigue** (MATHRYCE)
  - Modeling behavior of **high pressure vessels** when exposed to fire conditions (FireComp)
  - **Measurement** accuracy of hydrogen refueling (HyAC)
  - Fast transfers of **compressed H_2** (HyTransfer)
  - Guidelines for **indoor use** of fuel cells and hydrogen systems (HyIndoor)
  - Hydrogen **fuel quality** assurance for hydrogen refuelling stations (HRS), and new input for possible revision of ISO 14687-2:2012 standard. (HyCoRa)
  - Resistance to mechanical impact of **composite overwrapped pressure vessels** (HYPACTOR)

Deliverables

- Education and Training curriculum, materials and courses:
  - Hydrogen **Emergency Response** training for First Responders (HyResponse)
  - Vocational training (HyProfessionals)
  - Training for **regulators and public safety** experts (HyFacts)
  - **International Curriculum** on FCH technologies (TrainHy)
- Safety
  - EU/US joint collaboration on the testing of **H_2 Sensors** technology (H2Sense)
  - Assess industry efforts in **ensuring FCH technology is safe** and that there is adequate regulations (H2Trust)
  - Assessment of **best practices in use of CFD** for safety analysis (SUSANA)
- Socio-economic
  - Understand **social acceptance of H_2 technologies** across Europe and develop a communication toolbox (Hyacinth)
  - Study and design the **European framework for green hydrogen guarantees of origin** (CertifHy)

In summary

- Cross-cutting projects were **aligned with the Multi-annual Implementation Plan 2008-2013**, topics and budget-wise.
- Strong portfolio of projects which **support the commercialisation of FCH technologies** in the Energy and Transport application areas.
- Good **participation of industry stakeholders** directly (as partners) but also indirectly (e.g. industrial advisory boards, workshops, etc.).
- Most of the projects include **international cooperation** activities with USA, Canada and/or Japan (e.g. PNR indoor use of H2, material fatigue, H2 sensors, fuel quality, etc).

Thank you for your attention!

Further info:

- FCH JU : http://fch-ju.eu
- NEW-IG : http://www.new-ig.eu
- N.ERGHY : http://www.nerghy.eu