



Introduction to portfolio Transport RTD Programme Review Days 2015

Lionel BOILLLOT- Project Manager Transport



Wednesday 18 November

08:00 – 08:30

Registration

PARALLEL SESSIONS ON SYSTEMS, COMPONENTS AND MATERIALS DEVELOPMENT PROJECTS

8:30 – 8:45

Introduction to Transport portfolio:
Lionel Boillot
 (Lord Jenkins Room, ground floor)

Introduction to Energy portfolio:
Dionisis Tsimis
 (Alcide de Gasperi Room, 2nd floor)

8:45 – 8:50

Q&A

Q&A

Panel 2 - Transport RTD: MEAs, bipolar plates, stacks and subsystems, hydrogen refuelling stations

Panel 4 - Energy RTD: Materials, components, performance phenomena, subsystem design and production

Moderators: Lionel Boillot and Daria Vladikova

Moderators: Dionisis Tsimis and Laurent Antoni

Panel - MEAs

Panel - Materials and subsystems design and production

8:50 – 9:05

CATAPULT

T-CELL

9:05 – 9:20

IMPACT

SECOND-ACT

9:20 – 9:35

CATHCAT

EURECA

9:35 – 9:50

NANO-CAT

ONSITE

9:50 – 10:00

Q&A

Q&A

10:00 – 10:30

Coffee Break and Networking

Panel - Bipolar plates, stacks and subsystems, HRS

Panel - Performance phenomena

10:30 – 10:45

STAMPEM

PROSOFC

10:45 – 11:00

COPERNIC

DEMSTACK

11:00 – 11:15

PHAEDRUS

CISTEM

11:15 – 11:25

Q&A

Q&A

11:25 – 12:10

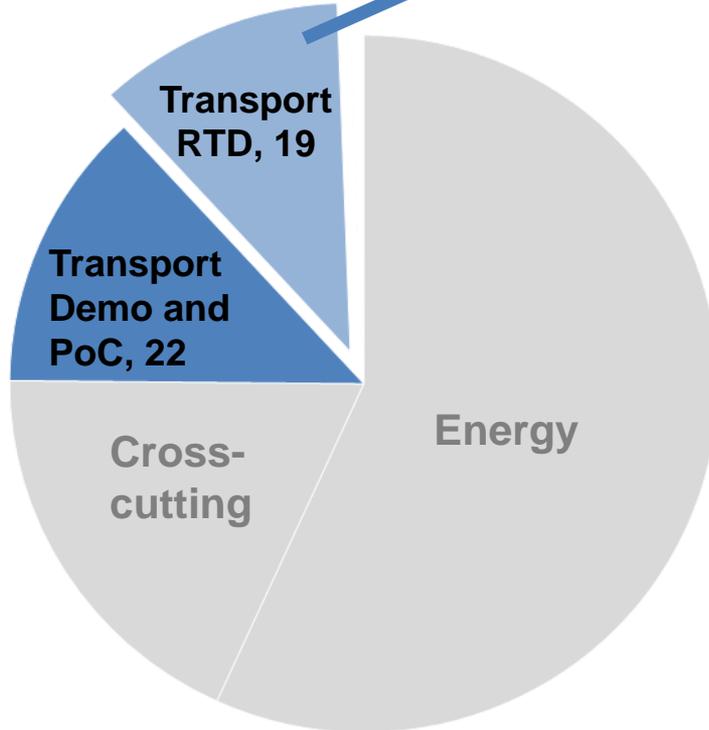
Poster Session - Panels 2 and 4 Manned (2nd floor)

12:10 – 12:35

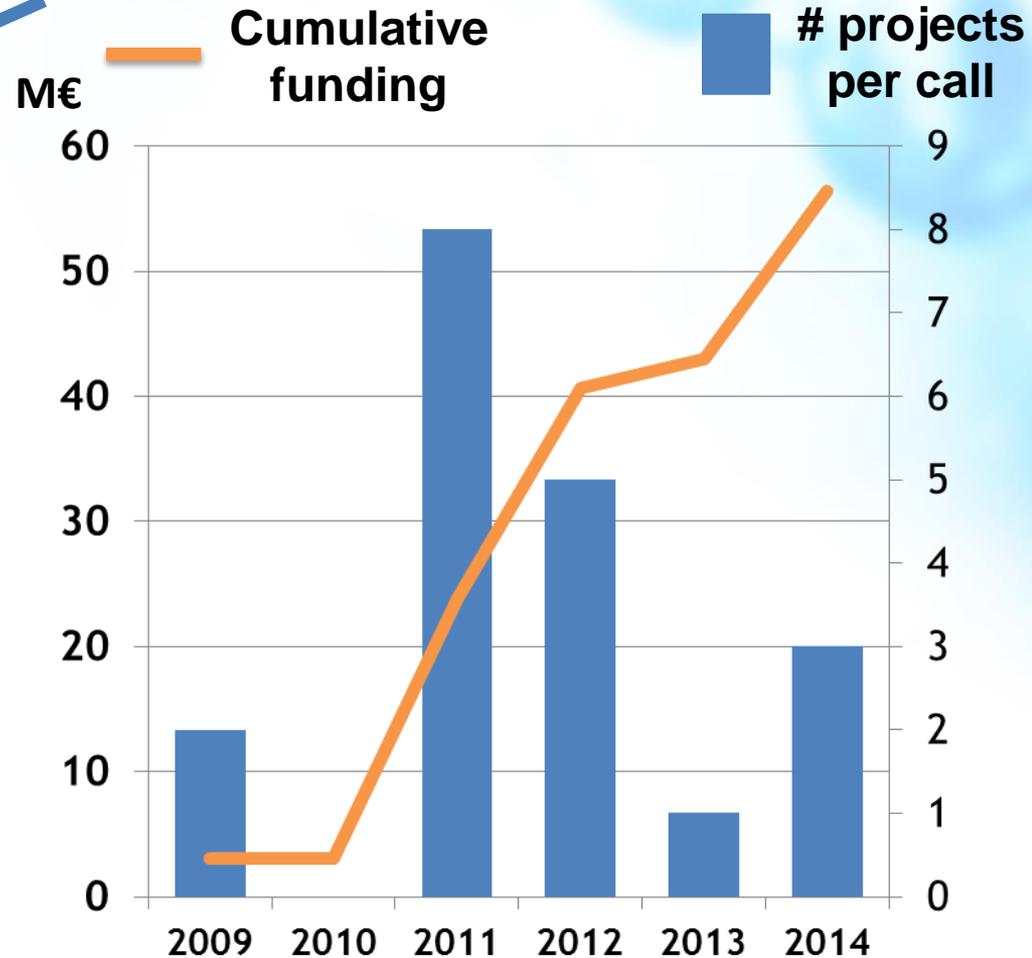
Lunch and Networking

Transport RTD in FCH JU

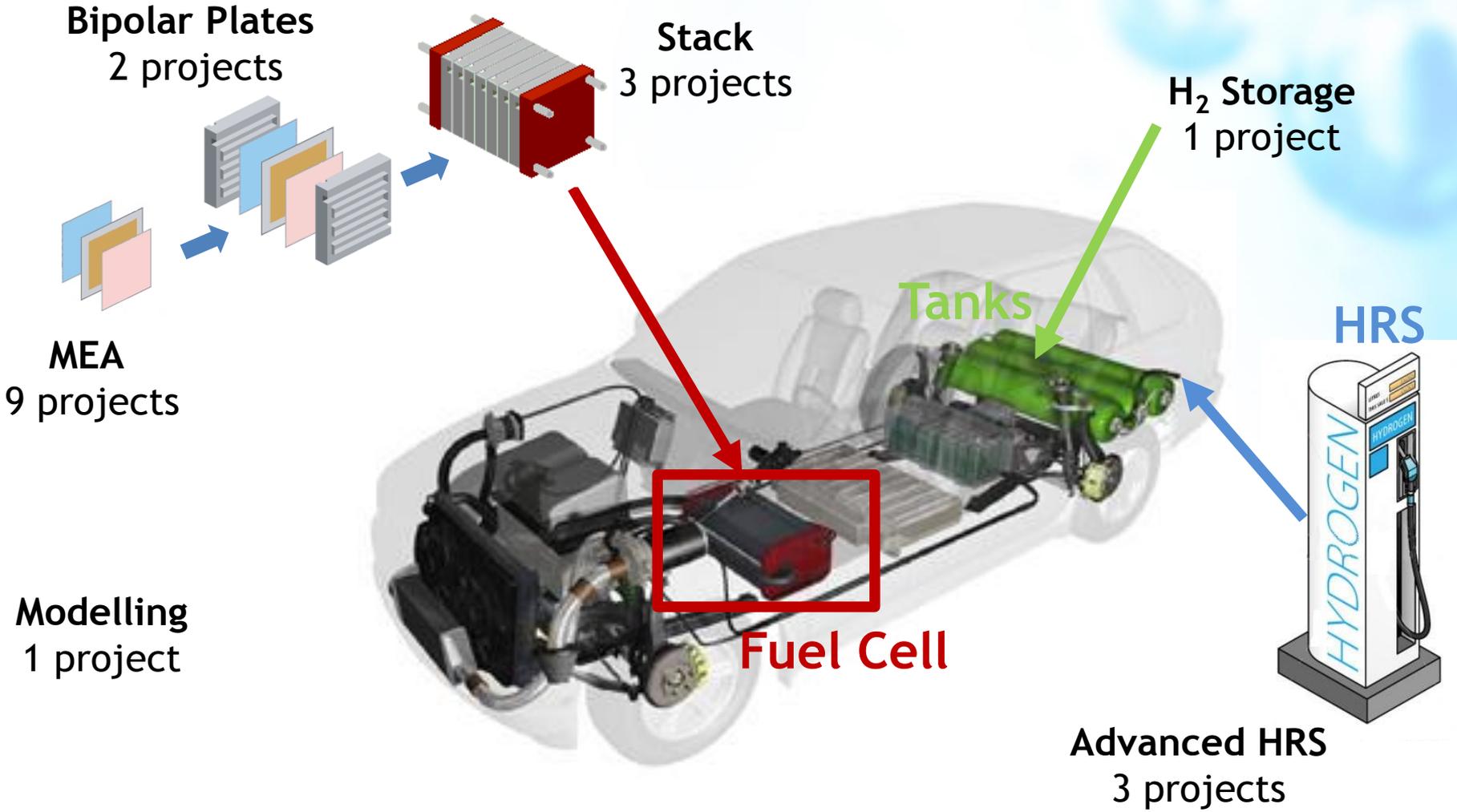
Number of projects
169 (of which FP7: 155)



FCH JU Funding (total 56M€)



Technical coverage

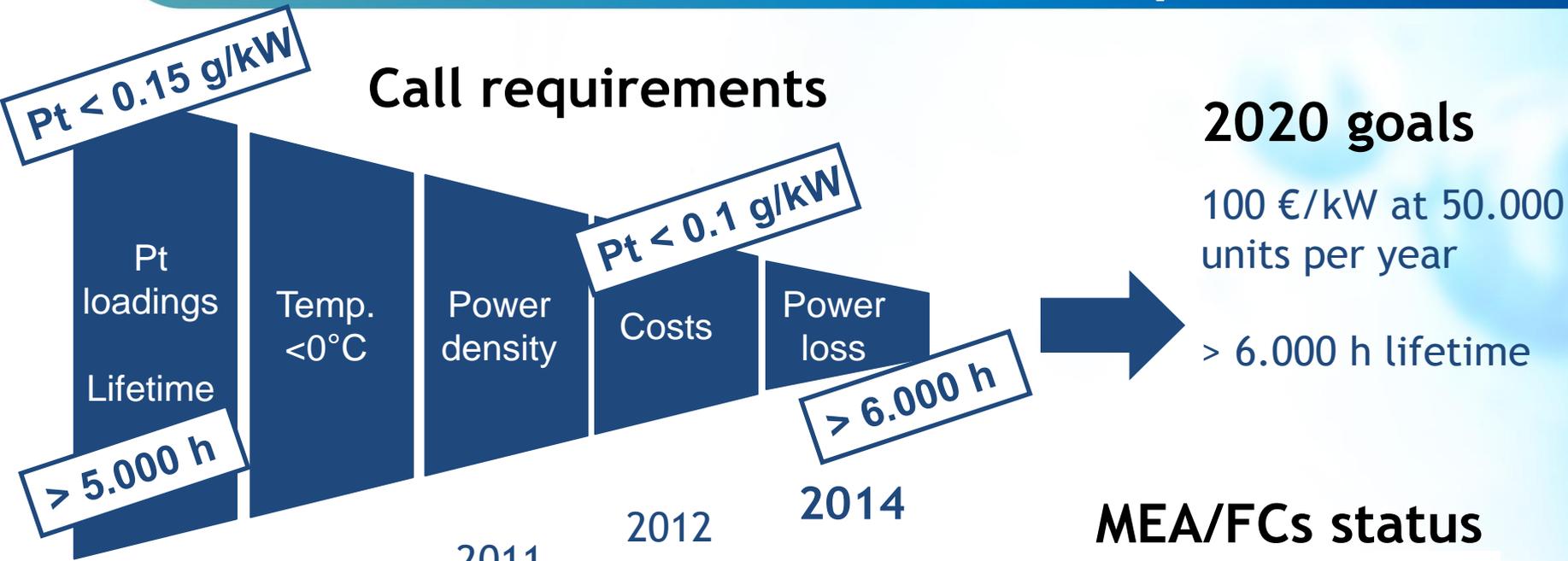


MAIP/MAWP coverage

	1st half-session									2nd half-session									
	MEA									BPP		Stack & Subsystems		Model & Simul.	H ₂ sto.	HRS			
R&D areas	PEMICA N	ARTEMI S	CATHCAT	IMMEDIATE	IMPACT	IMPALA	CATAPULT	SMARTCAT	NANOCAT	STAMPEM	COBRA	AUTOSTACK	AUTOSTACK-CORE	VOLUMETRIQ	PUMAMIND	COPERNIC	PHAEDRUS	H2REF	NEWBUSFUEL
Membranes	X	X	X	X	X			X				X	X	X					
Catalysts	X	X	X	X	X		X	X	X			X	X	X					
GDL				X	X	X						X	X	X					
Bipolar plates - BPP										X	X	X	X	X					
Manufacturing & Process dvt.										X		X	X	X		X			
Methodology & Tools	X	X			X	X	X							X	X			X	X
BoP components														X		X			
HRS (adv.)																	X	X	

2014

1st half-session - MEA, long-term perspective= from the labs to the production lines



2020 goals

100 €/kW at 50.000 units per year

> 6.000 h lifetime

MEA/FCs status

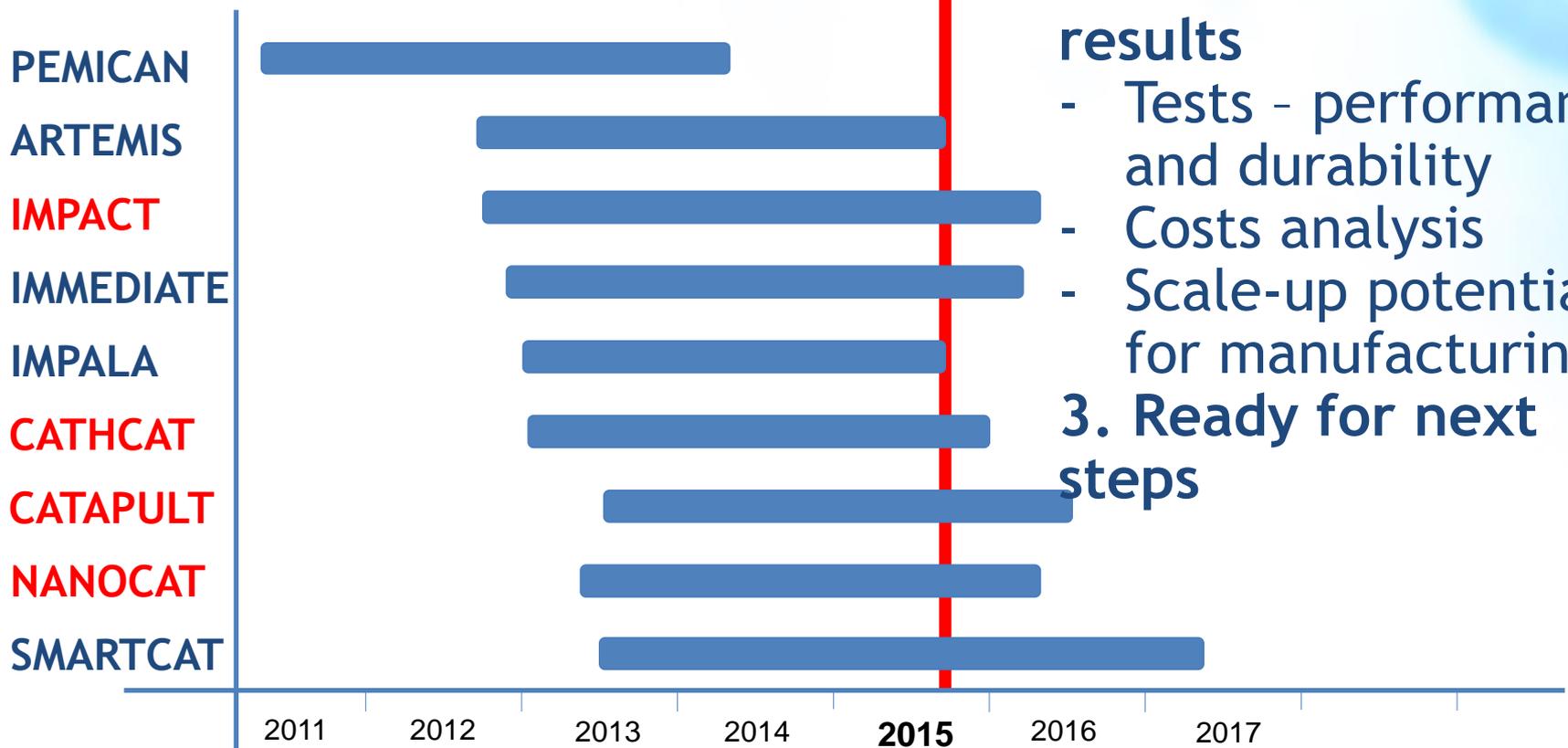
	From 2009	To 2020
Costs	✗	✓
Durability	✗	✓
Performance	✗	✓

With each year call, stringent requirements to meet the 2020 goals

1st half-session - MEA, Achievements & Status

MEAs

Broad range of approaches for membranes, catalysts and GDL



What is important ?

1. Robust R&D basis
2. Harmonised results

- Tests - performance and durability

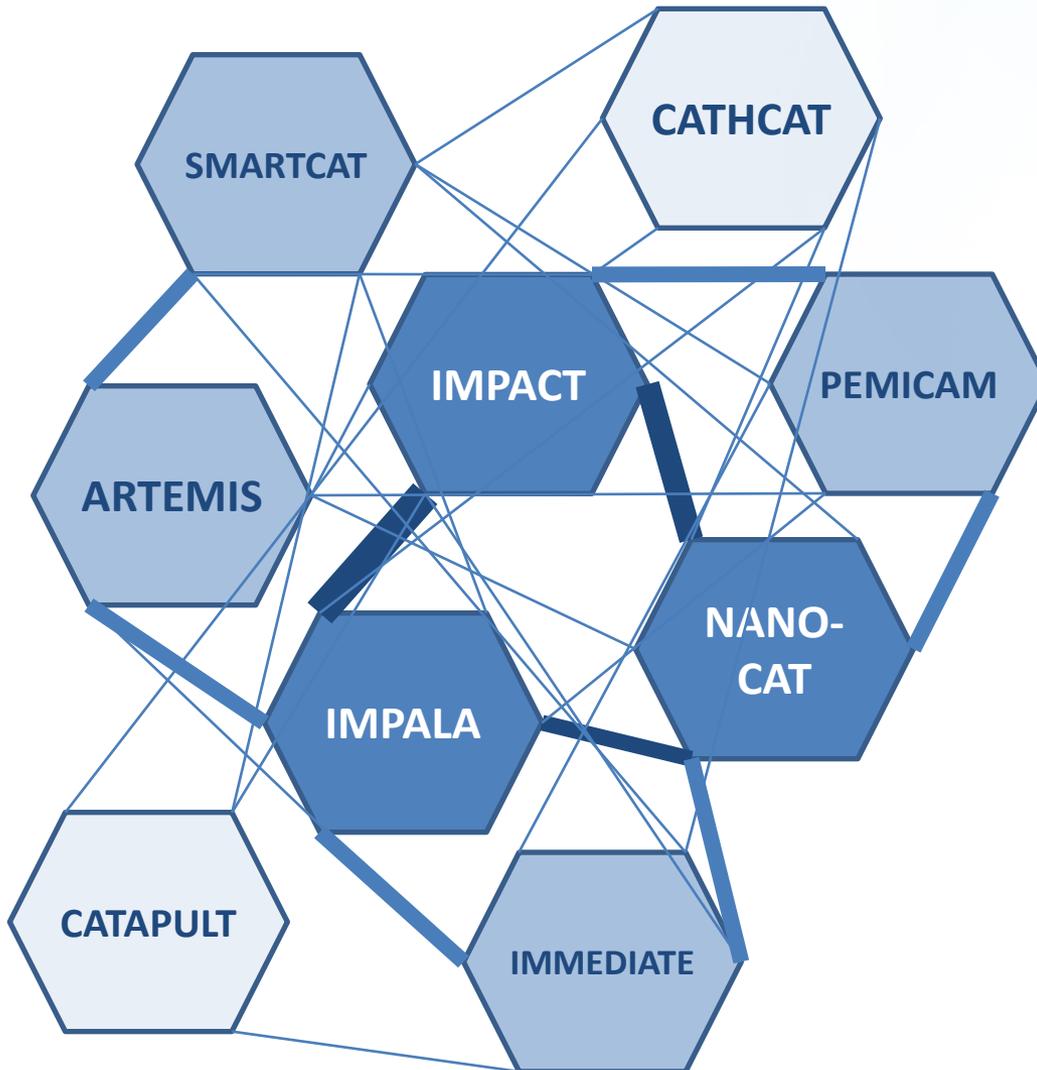
- Costs analysis

- Scale-up potential for manufacturing

3. Ready for next steps

1st half-session - MEA, collaborative projects

From 4 to 14 common participations



Integrated

- Scientific collaboration and exchange of results
- The "whole" greater than the sum of its parts

Complementary BPP projects

STAMPEM

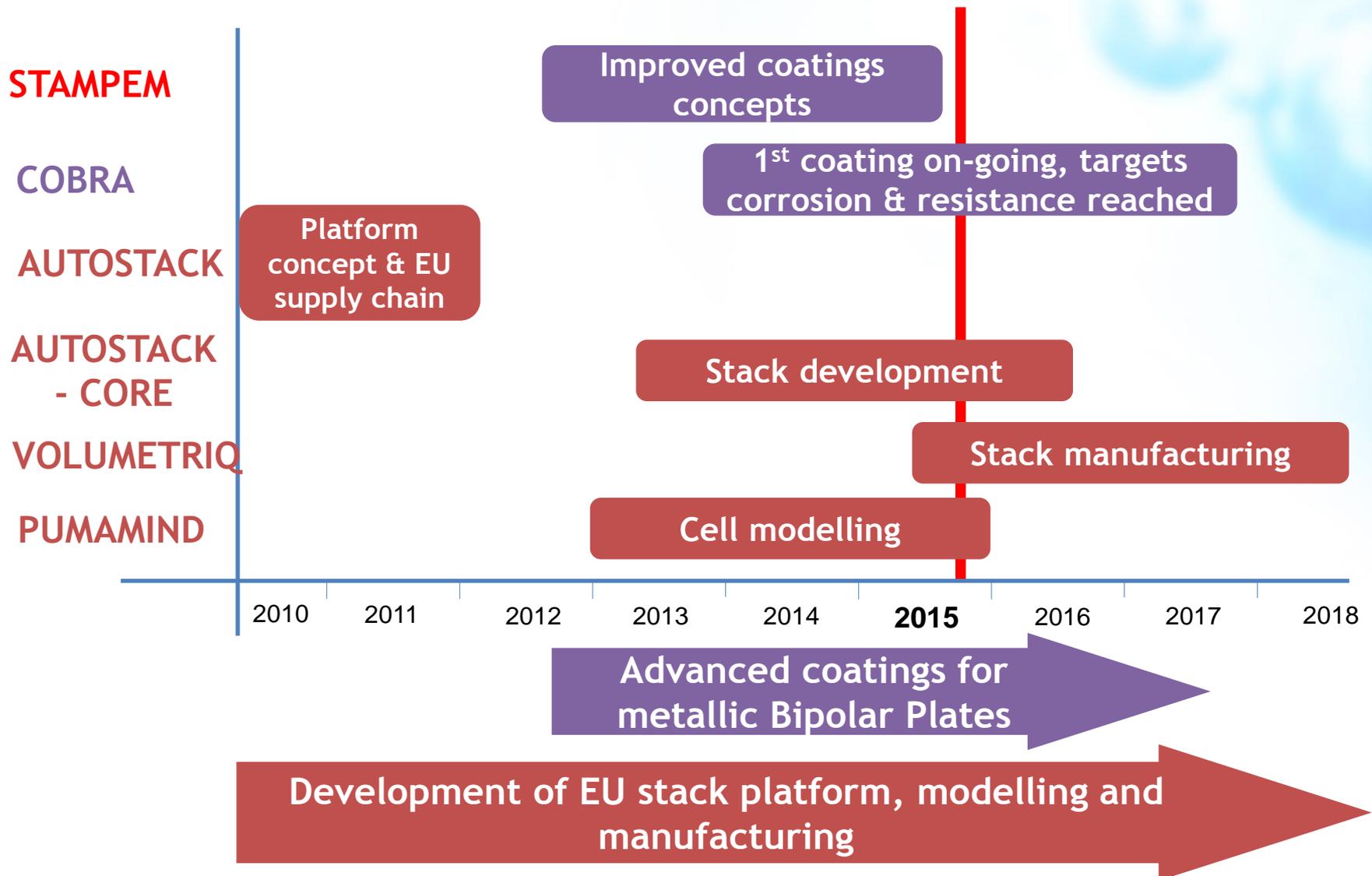


OEM Participation



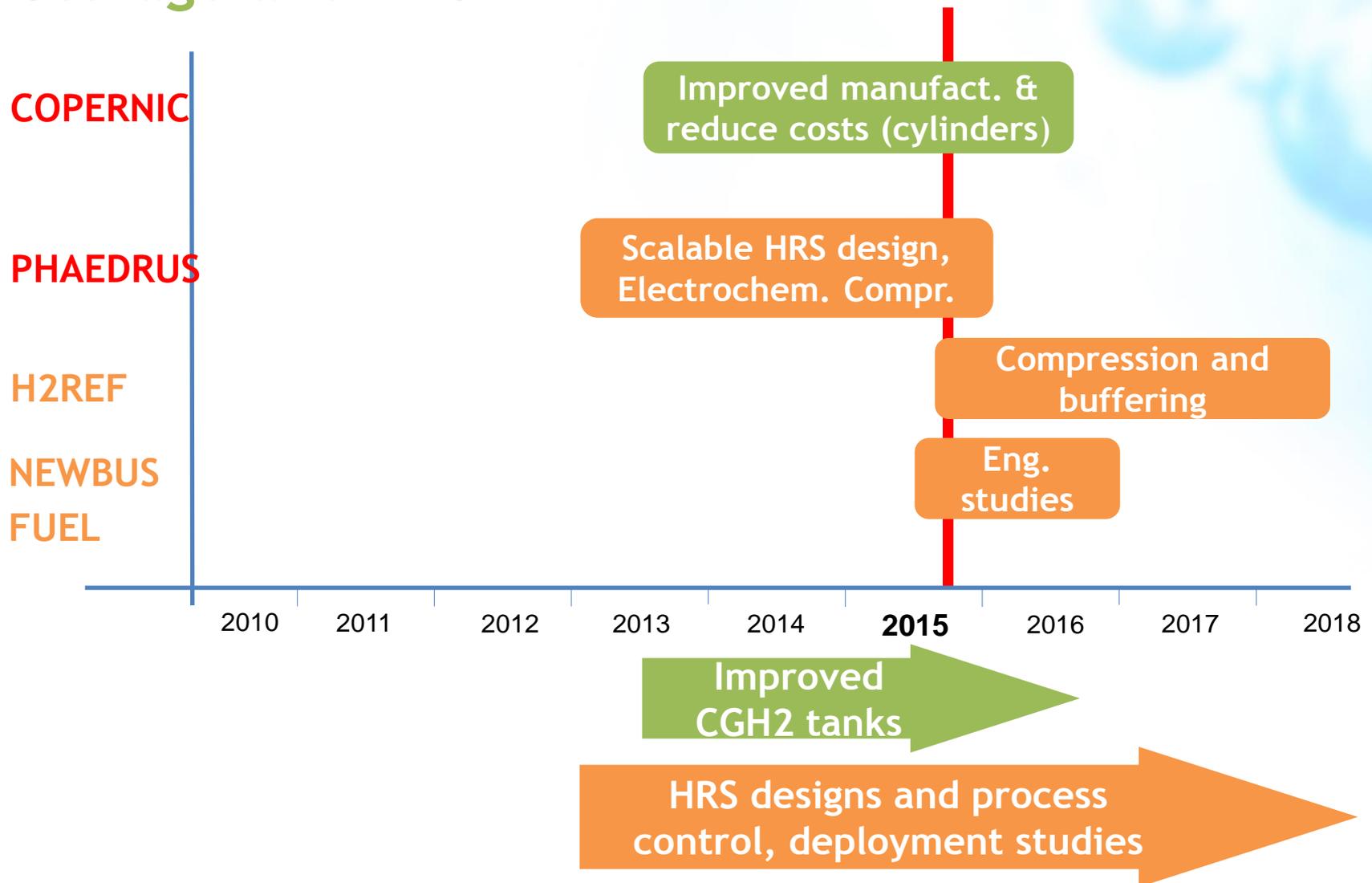
2nd half-session - Achievements & Status

Bipolar Plates, Stack and Cell Modelling



2nd half-session - Achievements & Status

Storage and HRS



Horizontal aspects

Dissemination and exploitation

- 140+ conference presentations
- 60+ publications
- 7+ international workshops
- 4+ patents
- Other (video, Linked  group)

Training and education

- ~15 PhD and ~17 post-doc trained/recruited
- Some trainings and courses

Harmonisation with JRC

Workshops on PEFC testing protocols for automotive applications

4 Int. Conferences / Workshops jointly organised by FCH JU projects in 2015



Electrolysis & Fuel Cell Discussions

Challenges towards zero platinum for oxygen reduction



3rd INTERNATIONAL WORKSHOP ON
DEGRADATION ISSUES OF FUEL CELLS and ELECTROLYSERS

International workshop

Bipolar Plates for PEM technology



**6th International Conference on
Fundamentals and Development of Fuel Cells**

3 to 5 February, 2015 Toulouse - FRANCE



Conclusion R&D in Transport

- Comprehensive level of MAIP/MAWP coverage
- R&D supported mostly in calls 2011 and 2012 (67% of total) → Bulk of impact to come in 2016
- Continuous support and diversity in the research paths call for harmonised results
- Inter-projects collaboration was successful
- Strong focus on FC components (MEA, BPP) goes downstream from labs to production lines