

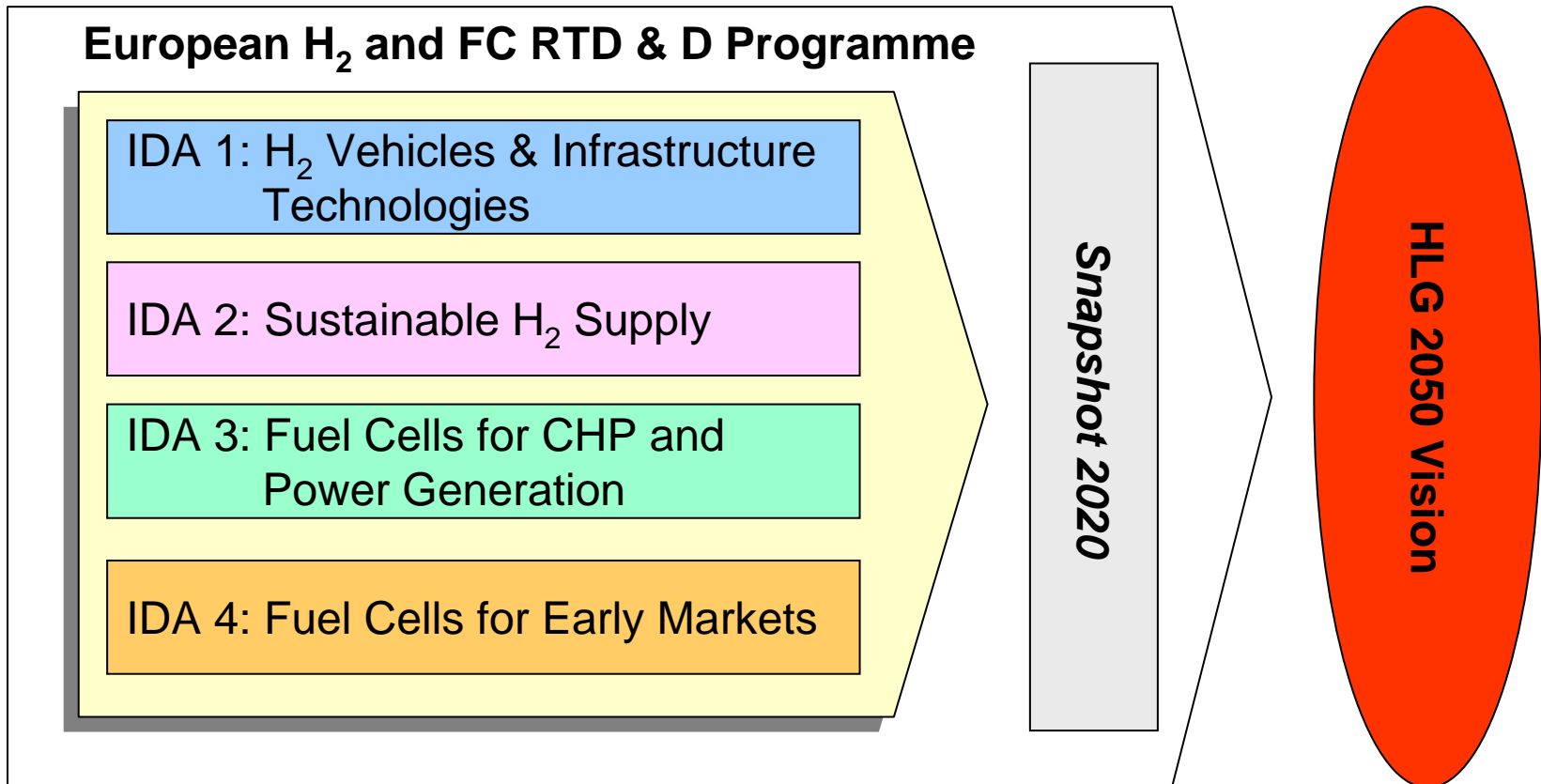


European Hydrogen and Fuel Cell Technology Platform

# The concepts of the “IMPLEMENTATION PLAN” for the support and integration of REGIONS

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# PROGRAMME FOUNDATION : Four Innovation & Development Actions (IDA)



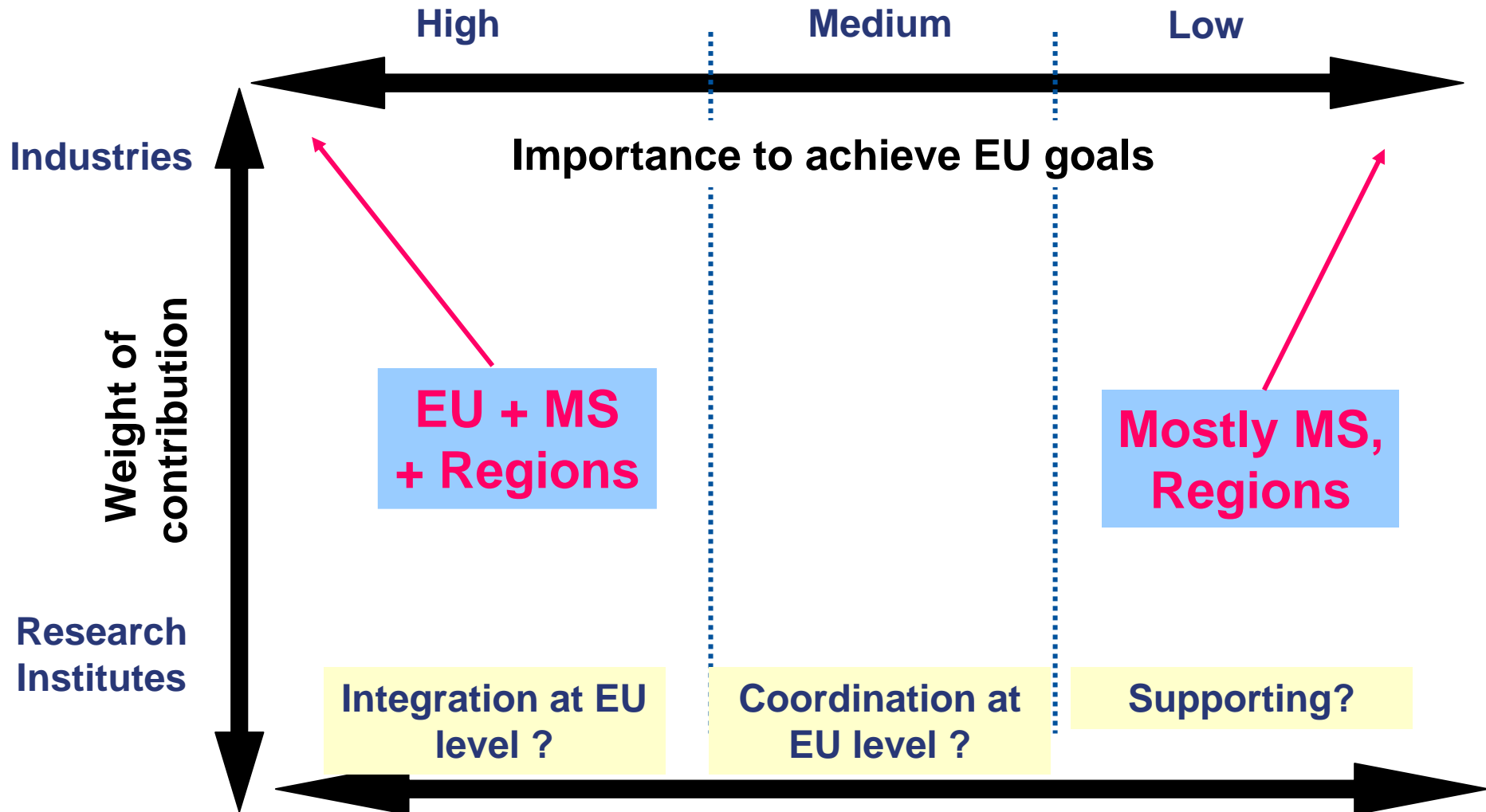
# Four Innovation and Development Actions (IDA)

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1. **Hydrogen Vehicles & Infrastructure Technologies** - *Improve and validate H<sub>2</sub> vehicle and infrastructure technologies to the level required for commercialisation decisions by 2015 & mass market roll-out by 2020*
2. **Sustainable H<sub>2</sub> Supply** - *10-20% of the H<sub>2</sub> supplied for energy applications to be CO<sub>2</sub> lean or free by 2015*
3. **Competitive FCs for CHP and power generation** - *> 1 GW capacity in operation by 2015*
4. **FCs for Early Markets** – *X000 early market FC products in the market by 2010*

# How to Segregate Actions from the different sectors, applications?



# Key priorities



## H<sub>2</sub> Vehicles & Infrastructure

- **Cost** reduction
- Vehicle **components** (including PEM / H<sub>2</sub> storage)
- **Infrastructure** build-up

## Sustainable H<sub>2</sub> Supply

- **Short term** : LT electrolysis
- **Long term** : CO<sub>2</sub> free/lean centralized mass production technologies
- **Planning** for H<sub>2</sub> infrastructure build-up

## FC for CHP & Power generation

- **Balanced** developments on PEMFC, MCFC and SOFC technologies to meet both **transition & long term** goals

## FC for Portable & Early markets

- **Balanced** developments on PEMFC, MCFC and SOFC technologies to meet both **transition & long term** goals

+ STRATEGIC SUPPORTING ACTIVITIES



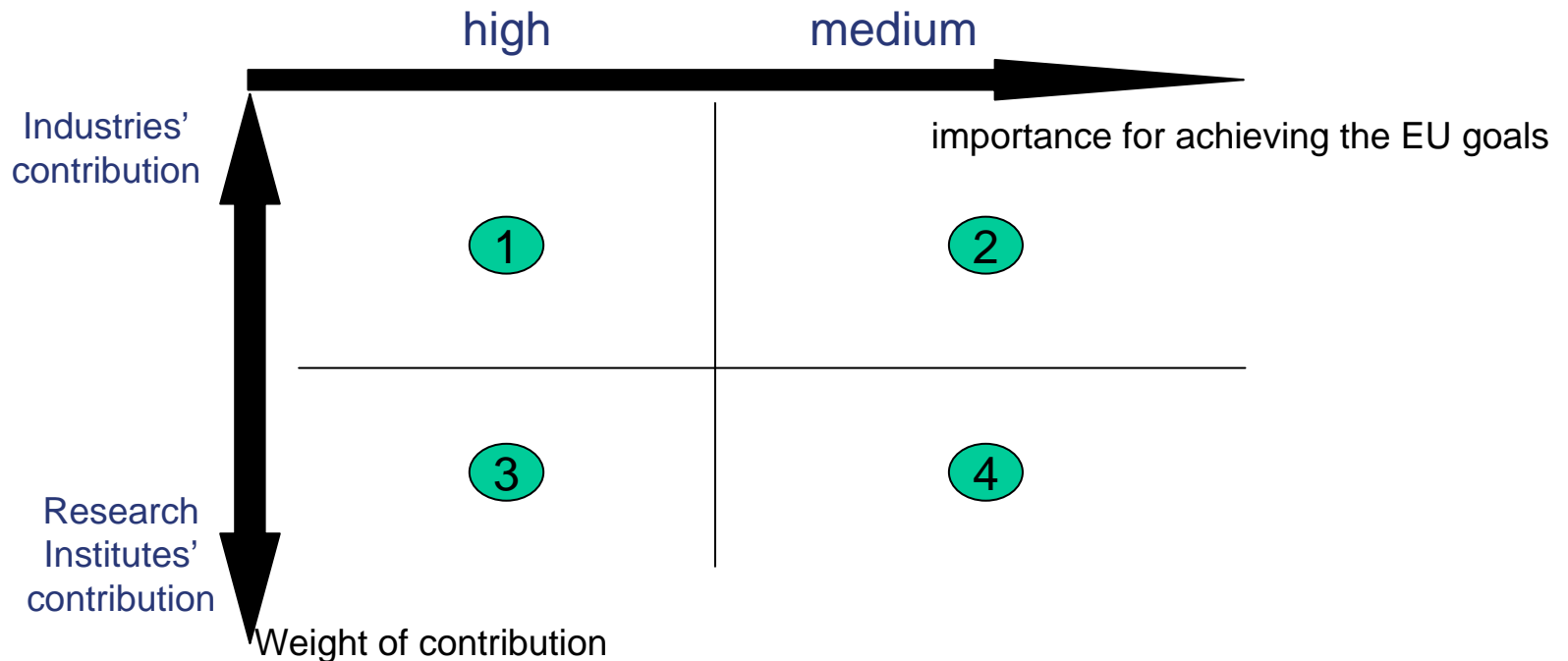
## ✓ €6 734M for the programme duration

- ✓ 39% and 42% of the budget for transport and stationary applications respectively
  - × 67% on demonstration activities (incl. prototype testing and validation)
  - × 27% on research and development activities
  - × 6 % on supporting deployment activities
  
- ✓ **Achievable** increase over current or already planned spending, **both from public and from private sources**
  
- ✓ Requires **coordination and alignment at European level**
  
- ✓ Without **major contributions from Member States and Regions** it will **not be possible** to achieve the common goals set by this Implementation Plan

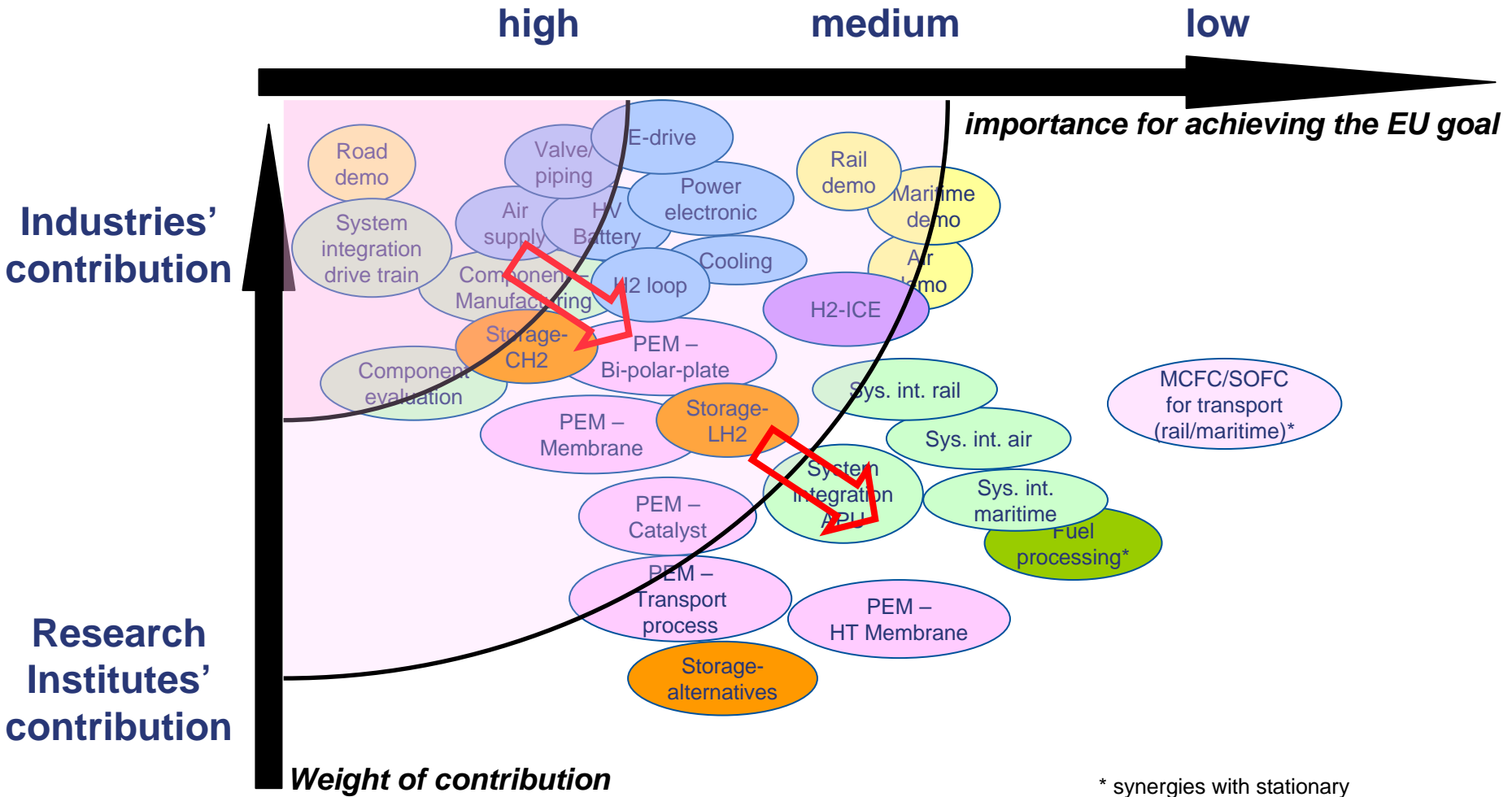
# Programme Implementation



- Scope of JTI, What's in?
  - Option 1: Quadrant 1
  - Option 2: Quadrants 1+2+3



# IDA 1 – H<sub>2</sub> vehicles and infrastructure JTI landscape - An example





- ✓ **Support SMEs**
- ✓ **Facilitate, Host Demonstrations**
  - *Early Markets*
  - *Vehicles & Infrastructure*
  - *Stationary*
- ✓ **Coordinate Research Capacities**
  - *Sustainable Hydrogen*
- ✓ **Alignment with other Regions**



- Overall consistency
- Get enough clear statements – realistic targets
- “Right” level for multiple audiences
- Finalise priorities and budget allocation
- Finalise synergies between IDAs
- Content of JTI and other instruments



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**THANK YOU!**



## Back-up slides

- **STATISTICS:**

- 27 responses analysed, 6 MS (FR, DE, GR, IT, SP, UK), 1 International Organisation
- 13 private organisations (SMEs 70%), 14 public bodies (3 EU projects, 3 Ministries UK, SP, GR)

- **Main Comments:**

- Clearer priorities within the IP, Flexibility recommended for LHPs' selection, JTI scope should be more detailed, Synergies with other platforms recommended
- Concerns about the high importance placed on road transport, Time to market may take longer, more embracing approach with other sectors
- More emphasis on the role of H<sub>2</sub> in RES integration (Peak shaving..), use of Bio-fuel infrastructure (Strong integration with Bio-fuels TP)

- **Main Comments (Cont'd)**

- Recommendations to give a higher profile to portable applications (Establishment of a clear sub-programme)
- Minimising carbon content of hydrogen at all stage of the programme (including early demonstrations),
- APUs-Applications links should be extended, based on its full range of technical capabilities – link with biofuels recommended
- Expand targeted applications for Early markets,
- Safety issues are crucial, EU standards are bound to International ones (Vienna Agreement)
- More visibility on LT R&D, Prepare for breakthroughs

Flexibility, Market principle, RDT/DEMO feedback, Targets, RTD milestones, Monitoring, Common analysis & planning framework

