FUEL CELLS AND HYDROGEN
JOINT TECHNOLOGY INITIATIVE

autostack moves

Status of Business Model

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Auto-Stack - Workshop – Feb 8, 2011

Grenoble

WP 4 Objectives

Overall Objectives

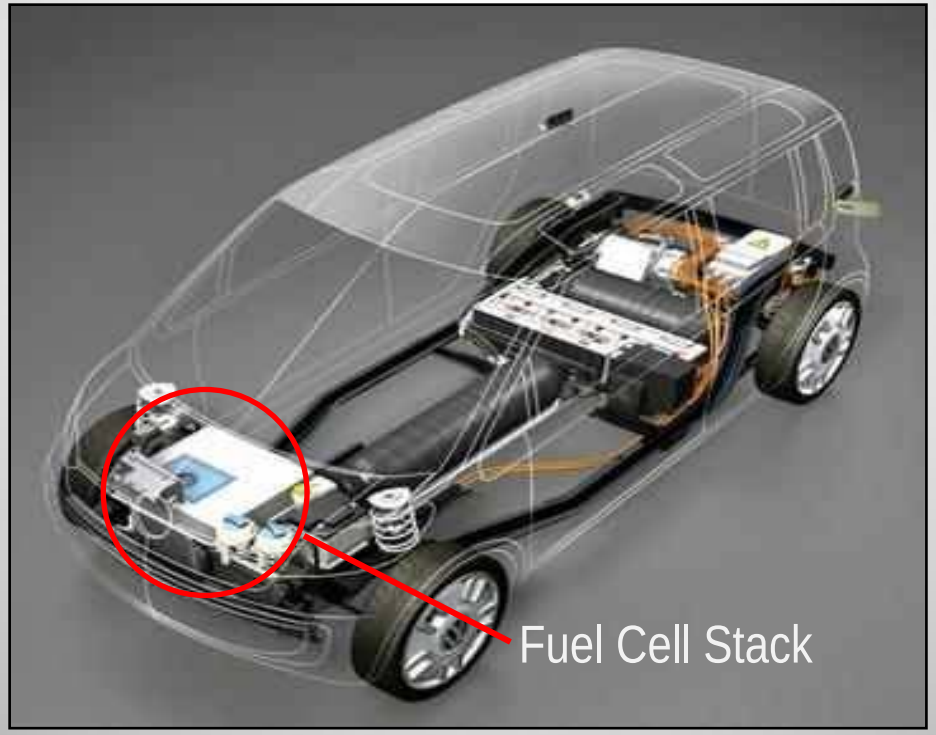
- Compile the technical expertise needed to form a stack integrator
- Compile the financial resources needed to form a stack integrator
- Work out a business plan
- Assess options for ventures and potential candidates

Contents

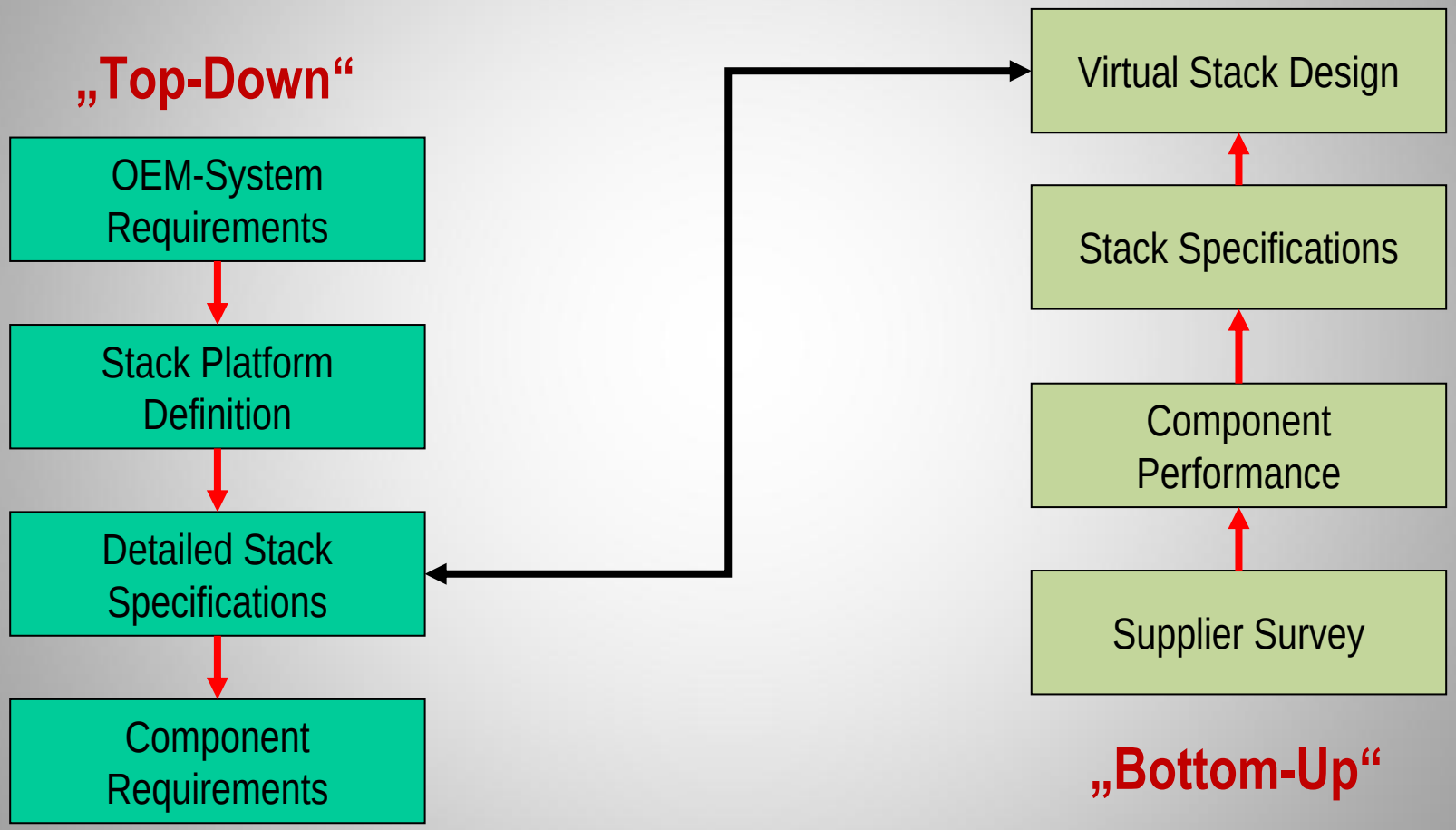
A. Product and Markets

Implementing the mission

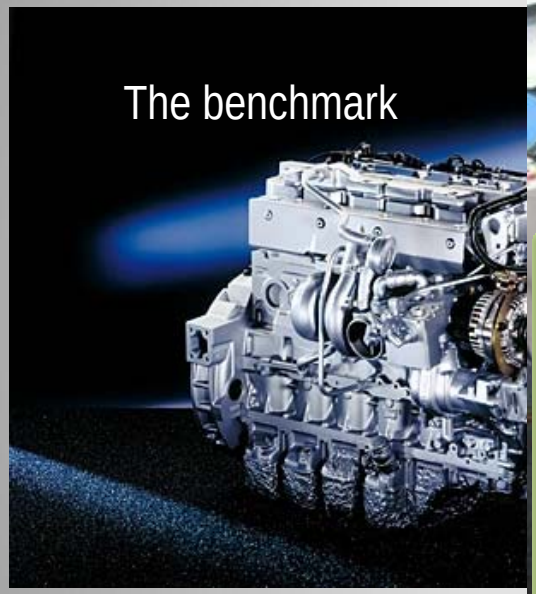
Common OEM Platform

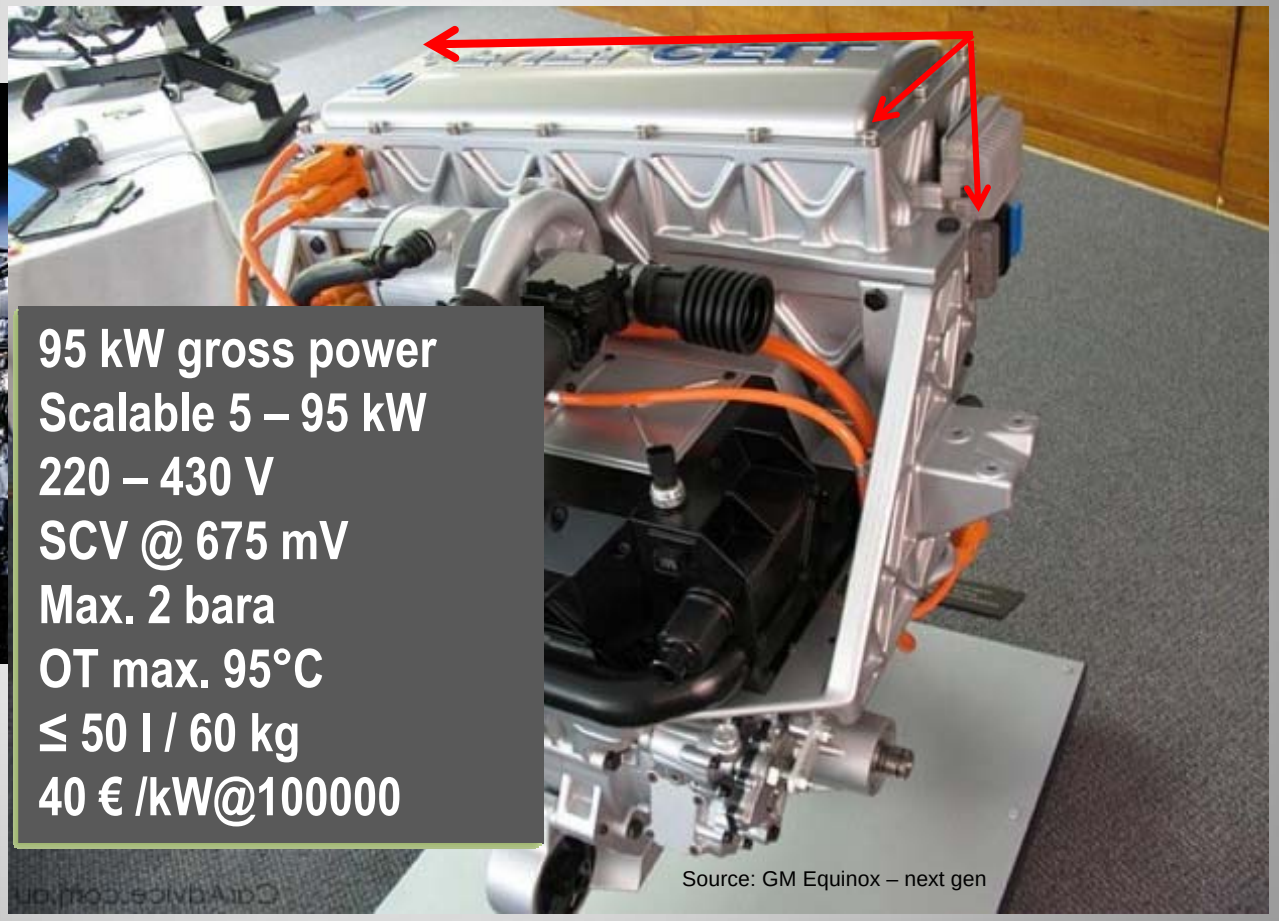


Two way approach to establish platform



High power density is enabler for different platforms





95 kW gross power
Scalable 5 – 95 kW
220 – 430 V
SCV @ 675 mV
Max. 2 bara
OT max. 95°C
≤ 50 l / 60 kg
40 € /kW@100000

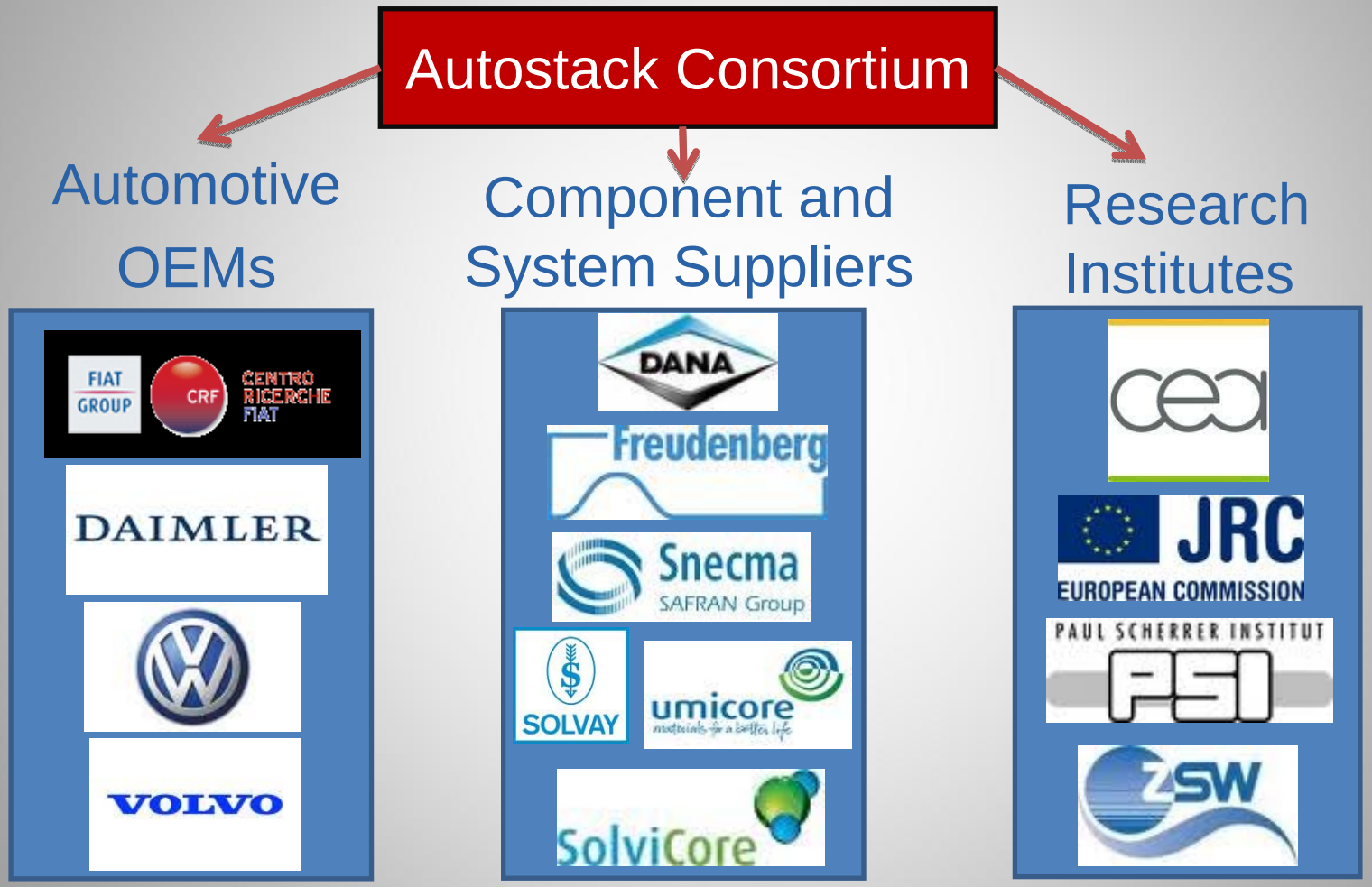
Source: GM Equinox – next gen

Several applications can be supported

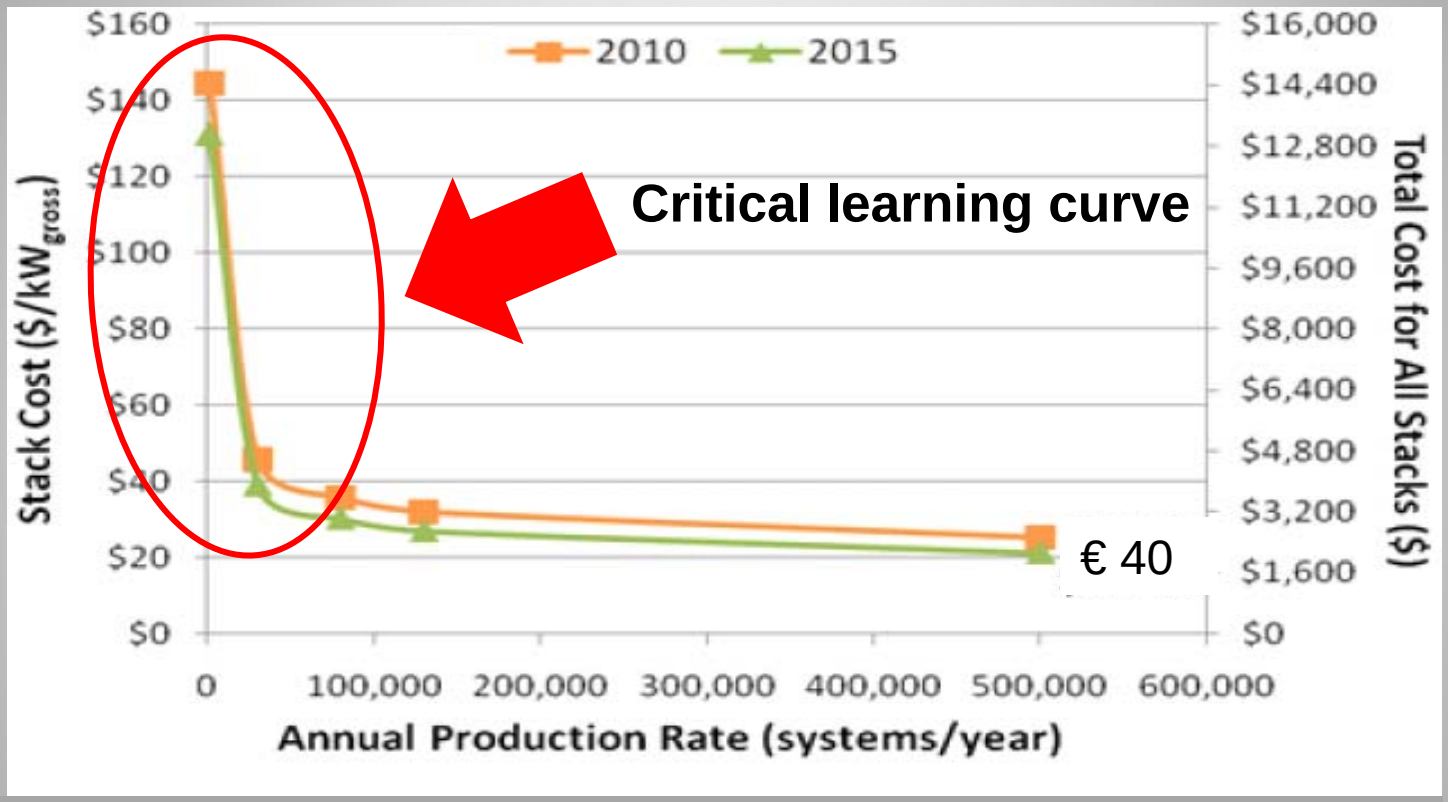
Transport	Stationary	Portable
Compact cars	UPS Telecom, IT	Generators
City-Buses	Back-up power	
Light Trucks		
Special vehicles		
Boats, Ferries		

B. Cooperation Model

Combining expertise



Facilitating commercial launch



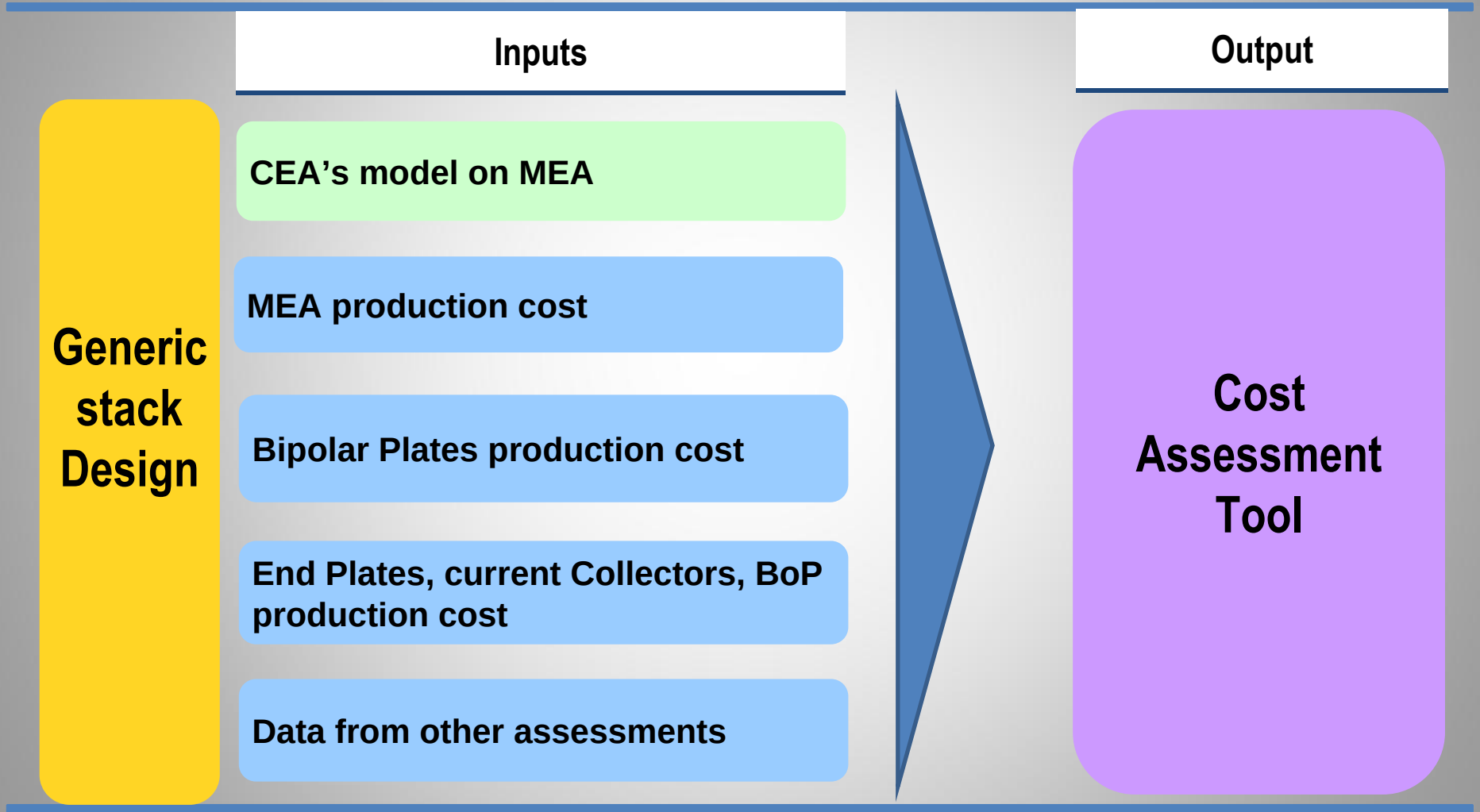
Reducing constraints for early commercialization

Cooperation enables economies of scale

Assumed production rates:
1 000 vehicles / year
10 000 vehicles / year
50 000 vehicles / year
100 000 vehicles / year
500 000 vehicles / year

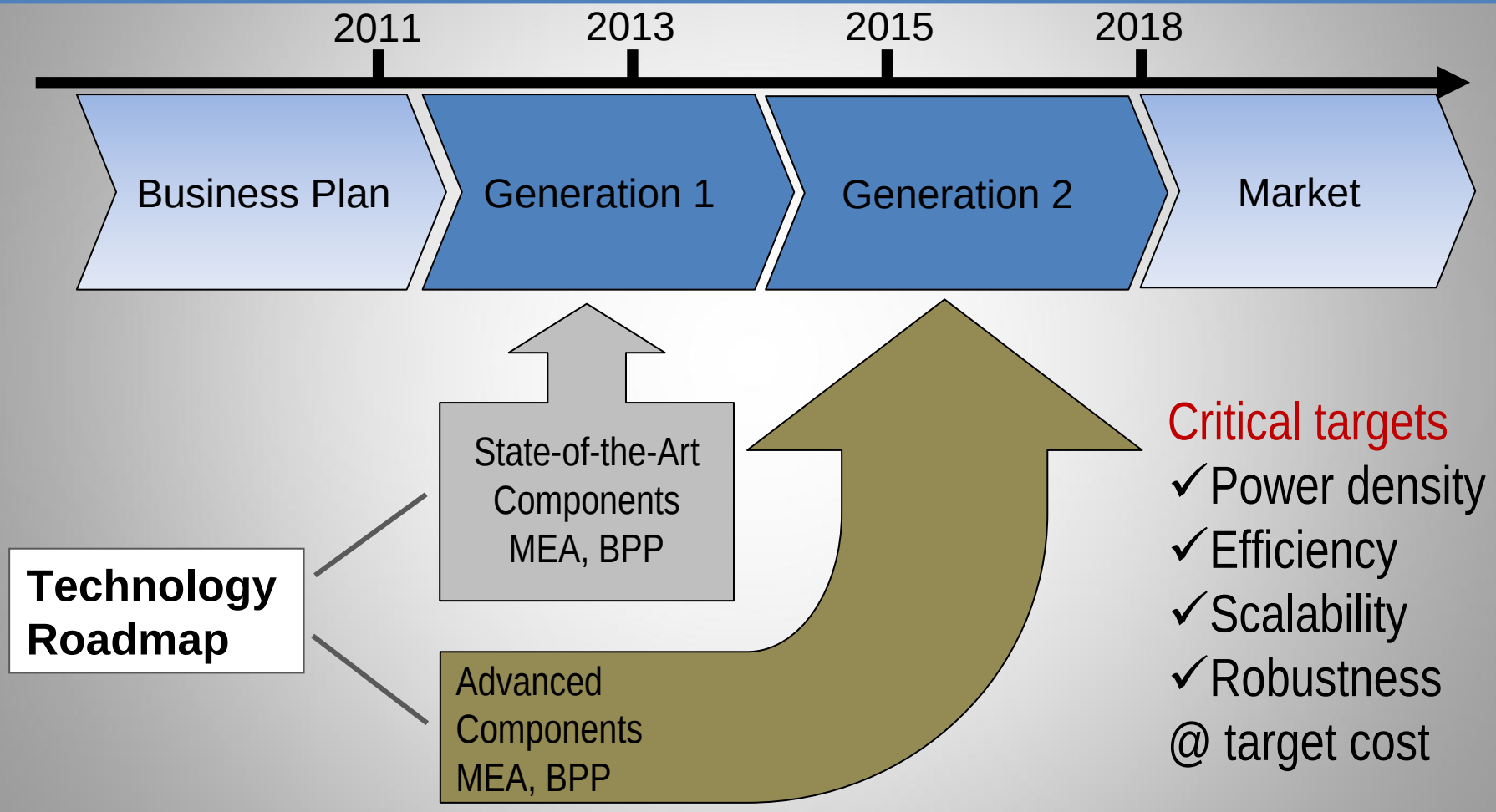
- ✓Accumulating volumes of several OEMs
- ✓Sharing of investment burden and risks
- ✓Allowing superior economies for other apps

Cost control to achieve commercial targets



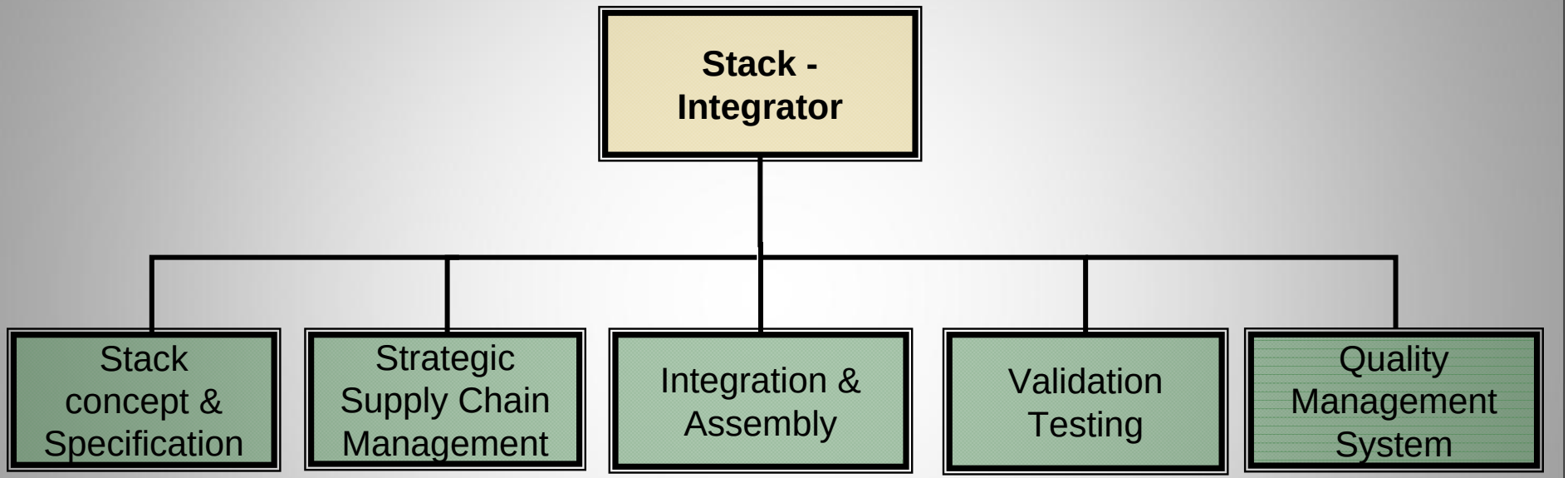
C. Technology roadmap

Consistent long-term roadmap



D. Expertise and resources

Focus on core activities



> Determine financial & personnel resources
> Identify potential candidates for integrator role
> Establish financing concept & action plan

E. Implementation

Executing the plan

- Common OEM specification and platform is close to completion
- Initial supply chain analysis is available and will be further completed
- Cost tool is established and will be fed with data
- Proposals for research agenda were submitted to the FCH JU
- Technology roadmap and business plan are in preparation

You are welcome @

http://autostack.zsw-bw.de/

Thank you!