

VALMET AUTOMOTIVE – CHALLENGES AND OPPORTUNITIES

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Senior Vice President

Manufacturing Business Line



VALMET AUTOMOTIVE

VALMET AUTOMOTIVE



Uusikaupunki, Finland

- Car manufacturing
- Engineering
- 4,000 persons



Żary, Poland

- Roof systems manufacturing
- 500 persons



Germany/Spain

- app 1500 engineers
- 7 locations

Facts

- Established in 1968
- ~ 6,000 employees – 1,000 in R&D
- Approx. 550+ MEUR turnover – over 100,000 cars a year

Shareholders

- Pontos (38.46%)
- Tesi (38.46%)
- CATL (23.08%)

Board of Directors

- Jarkko Sairanen (Chairman)
- Dr. Ulrich Hackenberg, Kari Heinistö, Timo Kokkila, Dr. Hans-Joachim Schöpf, Olli Vaartimo, Matthias Zentgraf



CONTENT



The future of transport



The new Valmet Automotive

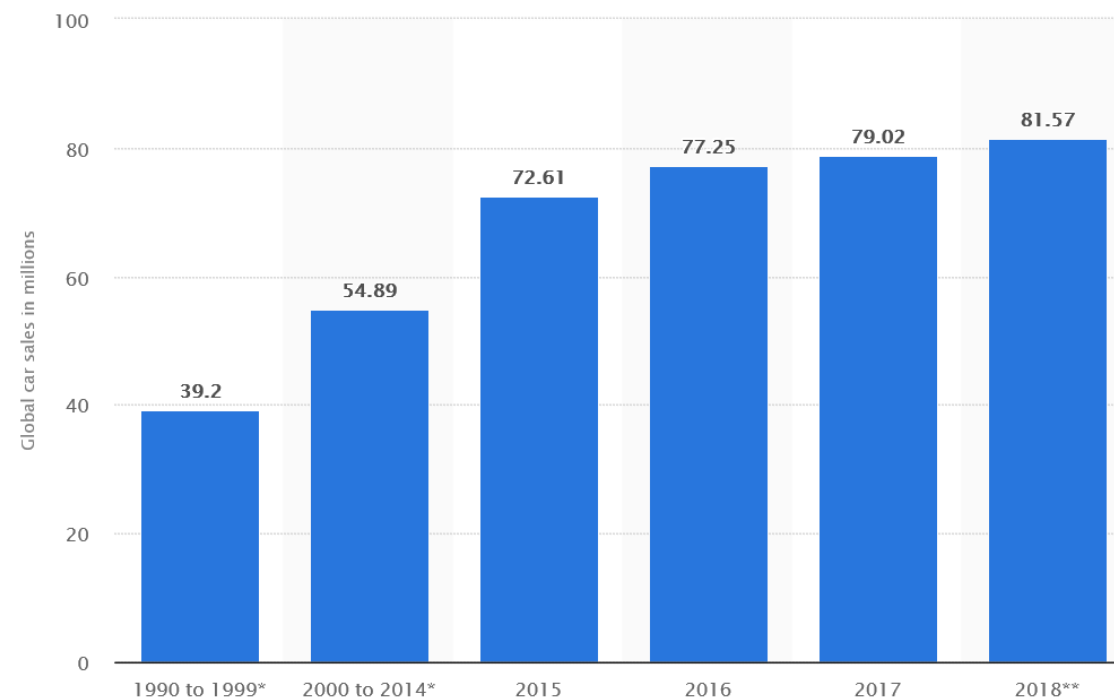


Shaping ecosystems

2017 WORLD CAR PRODUCTION AND SALES

WORLD CAR PRODUCTION; UNITS	YTD 2016	YTD 2017	
CARS	Q4	Q4	VARIATION
EUROPE	19,051,672	19,595,025	+2.9%
AUSTRIA	91,300	81,000	-11.3%
BELGIUM	354,003	336,000	-5.1%
FINLAND	48,000	91,598	+90.8%
FRANCE	1,636,000	1,748,000	+6.8%
GERMANY	5,746,808	5,645,581	-1.8%
ITALY	712,971	742,642	+4.2%
NETHERLANDS	87,609	155,000	+76.9%
PORTUGAL	99,200	126,426	+27.4%
SPAIN	2,354,117	2,291,492	-2.7%
SWEDEN	205,374	226,000	+10.0%
UNITED KINGDOM	1,722,698	1,671,166	-3.0%
- EUROPEAN UNION New Members	3,829,145	3,858,183	+0.8%
- OTHER EUROPE, incl. RUSSIA	1,213,559	1,479,031	+21.9%
TURKEY	950,888	1,142,906	+20.2%
AMERICA	8,778,776	8,190,677	-6.7%
- NAFTA	6,712,992	5,682,703	-15.3%
CANADA	803,230	749,458	-6.7%
MEXICO	1,993,178	1,900,029	-4.7%
USA	3,916,584	3,033,216	-22.6%
- SOUTH AMERICA (mainly Brazil)	2,065,784	2,507,974	+21.4%
ASIA-OCEANIA	43,884,300	44,964,533	+2.5%
Double Counts Asia / World	-213,830	-221,410	+3.5%
CHINA	24,420,744	24,806,687	+1.6%
INDIA	3,707,348	3,952,550	+6.6%
INDONESIA	968,476	982,356	+1.4%
IRAN	1,188,072	1,418,550	+19.4%
JAPAN	7,873,886	8,347,836	+6.0%
MALAYSIA	503,771	424,880	-15.7%
SOUTH KOREA	3,859,991	3,735,399	-3.2%
TAIWAN	251,087	230,356	-8.3%
THAILAND	805,033	818,440	+1.7%
VIETNAM	145,571	145,571	+0.0%
AFRICA	673,685	706,296	+4.8%
TOTAL	72,388,433	73,456,531	+1.5%
BMW, Mercedes, Audi and JLR not reported			
Estimate			

*source OICA



*source Statista

World car production and sales in 2017 was slightly less than 80 m cars.

For this year an increase is expected by about 3 %.

The geographical position of Europe is stronger in production than in market demand.

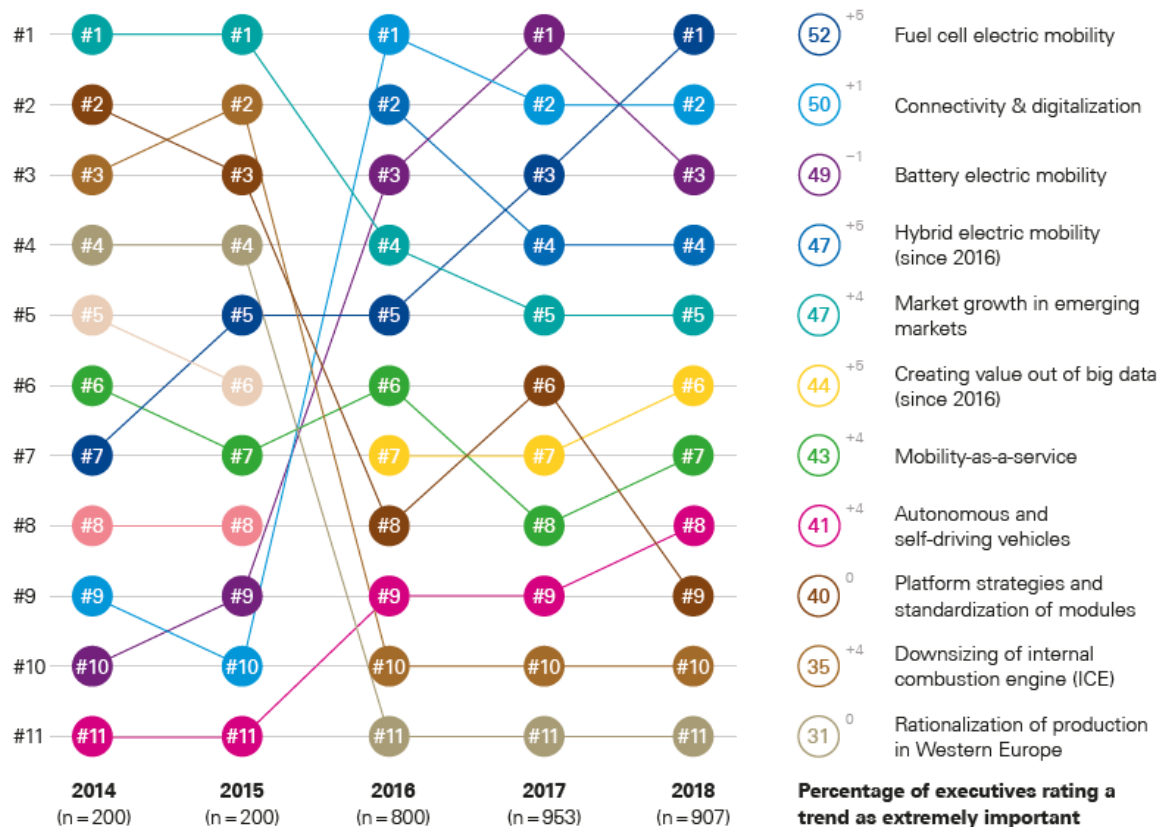


THE AUTO BUSINESS – A DYNAMIC ECOSYSTEM*



EXECUTIVE

Global Automotive Executive Key Trends until 2025



■ OEM captive financing and leasing (until 2015) ■ Innovative urban vehicle design concepts (until 2015)

Note: Executives (n = 907); figures and deviations from the previous year 2017 (n = 953) in percent

The auto business is part of an open, dynamic and self-organizing ecosystem consisting of physical assets, services and content. Finding the right balance between where to compete, cooperate or consolidate with industry peers and to wisely co-integrate content from non-asset based digital challengers is key. - Make your choice with whom, where and how to play very wisely!*

*KPMG's Global Automotive Executive Survey 2018



COMPETING ECOSYSTEMS

– a challenge for Europe

Resources:

Sustainability:
economic, social,
environmental

Innovation capabilities:
sensing, seizing,
reconfiguring

Service capabilities;
products,
customers

Manufacturing capabilities:
processes,
technologies

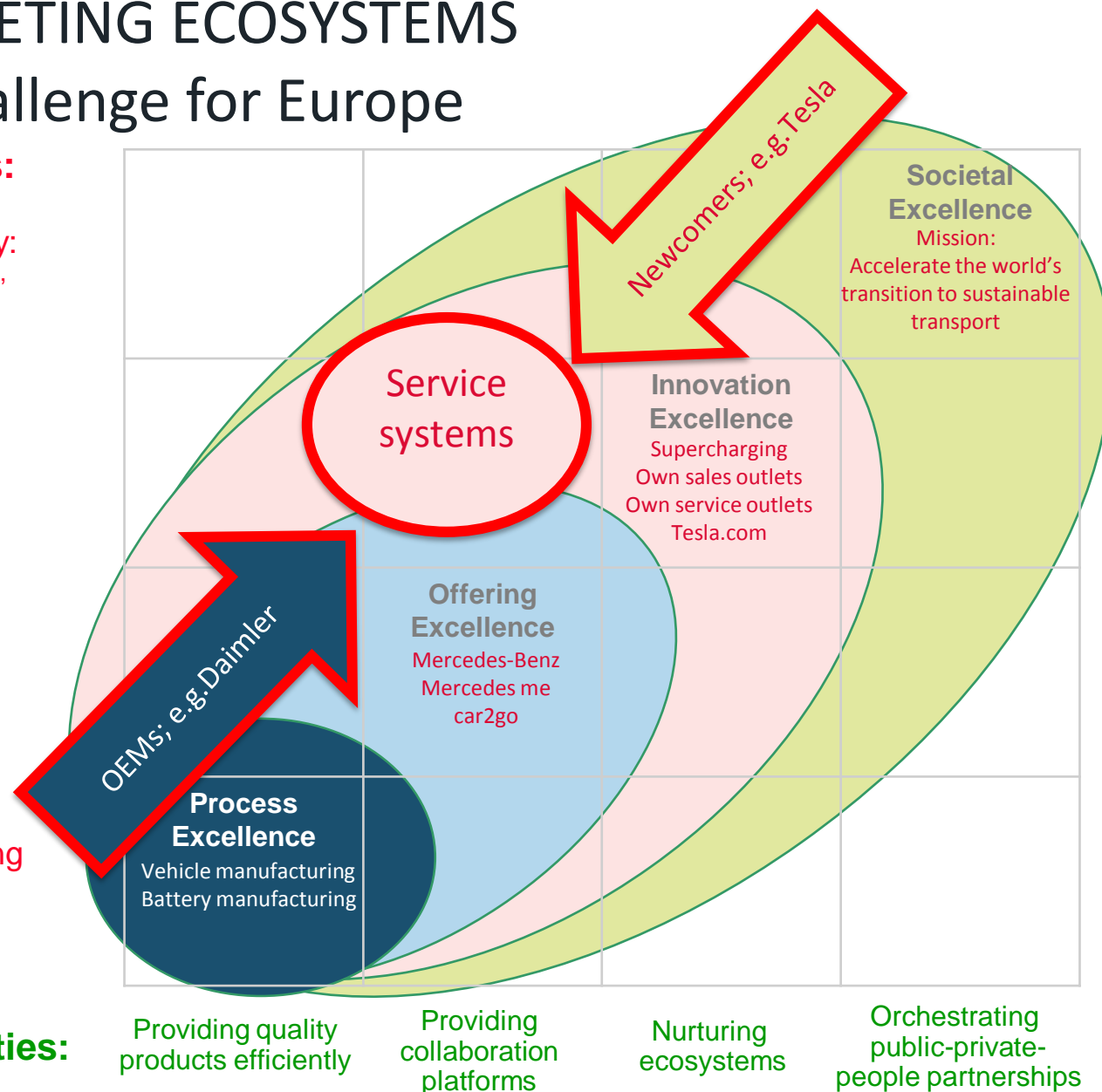
Activities:

Providing quality
products efficiently

Providing
collaboration
platforms

Nurturing
ecosystems

Orchestrating
public-private-
people partnerships



Based on the execs opinion, Western Europe finds itself nose-diving in regard to production volume: In comparison to last year, even more executives (74 %) believe Western Europe's car production will account for less than 5 %, which would only equal 6.1 million units of the global production by 2030 based on current market forecasts. Executives have realized that sustainable growth can only be generated in Asia and European OEMs have to react now.*

*KPMG's Global Automotive Executive Survey 2018

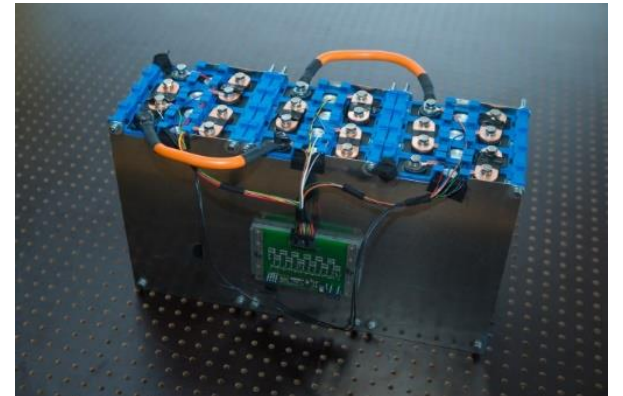
CONTENT

- > The future of transport
- > **The new Valmet Automotive**
- > Shaping ecosystems



ELECTRIC MOBILITY - CATALYST FOR CHANGE

- Valmet Automotive is a global **EV pioneer**; EV projects have improved networking capabilities, which has played a major role in building the partnership with Daimler
- Cooperation in EV battery technology with **University of Tsinghua** since 2010
- World's largest EV battery manufacturer, Chinese **CATL**, became a 23 % shareholder in 2017
- Valmet Automotive aims at **expanding its operations** by systematically building its capabilities with new innovations integrating its manufacturing and engineering capabilities



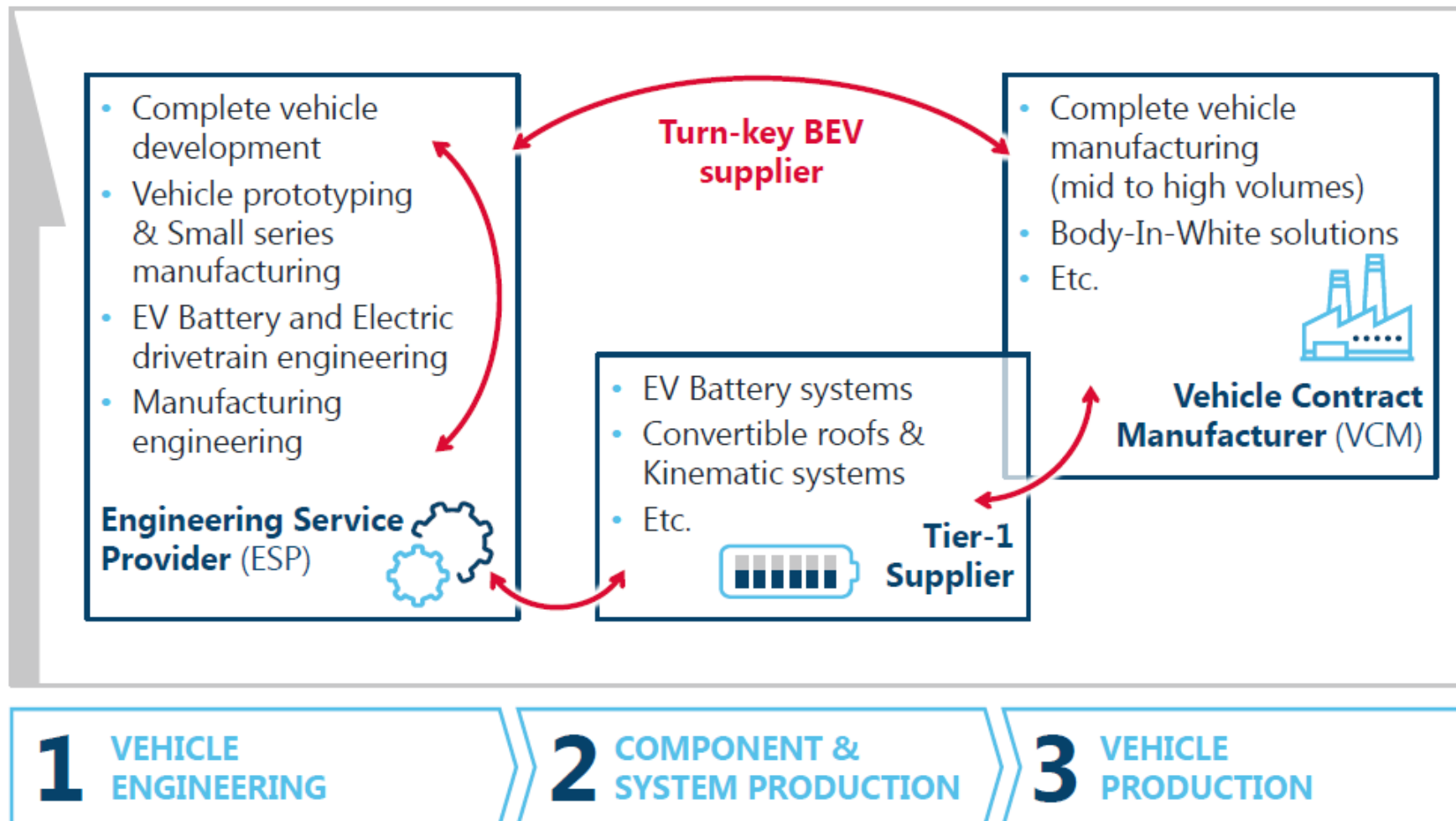
VALMET AUTOMOTIVE – A NEW JOURNEY



We are part of a changing industry ... Therefore, we change as well – and we take this as an opportunity!



4 VA GROUP – FUTURE VALUE PROPOSITION



WE OFFER complete vehicle services, as a strategic partner

WE DELIVER complete battery solutions for the vehicles of the future, incl. battery / eDrive integration

WE MANAGE vehicle projects from A to Z, taking over full responsibility

WE LEVERAGE our expertise across the entire value chain – from engineering to production

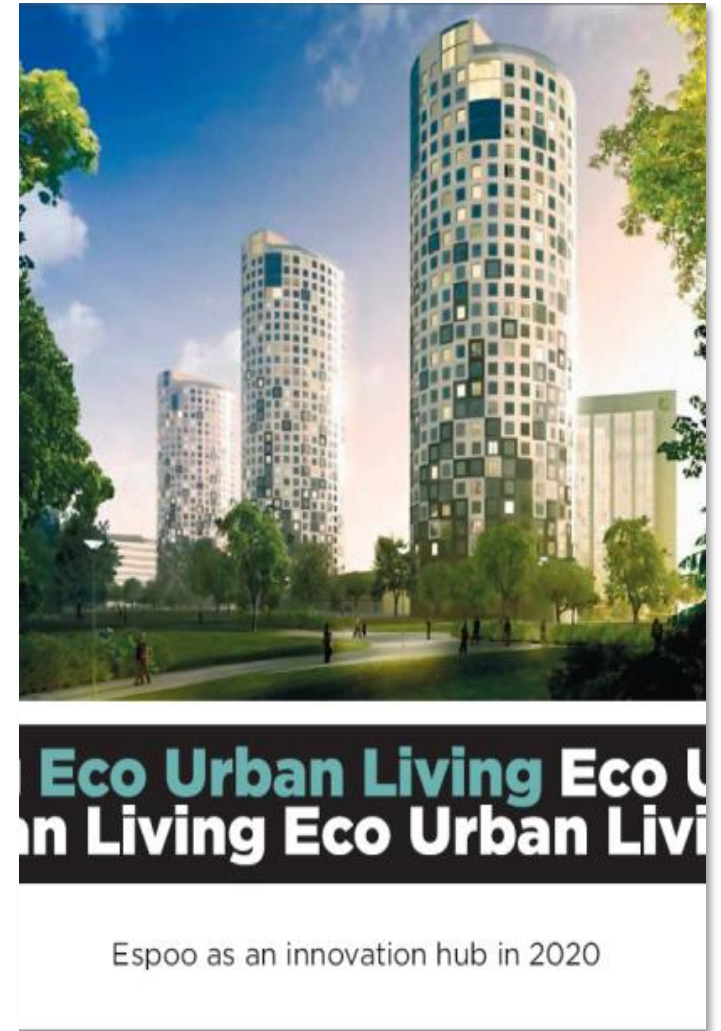
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INTRODUCING ECOSYSTEM THINKING (SPRING 2009)

- By putting the issue of EVs into the larger context, eco-conscious urban mobility, it was possible to provide an intellectually richer foundation for the management of Valmet Automotive when developing EVs.
- Taking the broader perspective positioned Valmet Automotive as an insightful player in the emergent ecosystems, and increased its potential to take an active role in the shaping of the ecosystems.
- In 2009 it was established an "insight task force" that supported Valmet Automotive management in a variety of discussions and negotiations.
- Governments and energy companies were as important stakeholders in the discussions as the traditional car/transport industry. Value was defined as the total value created by the whole new infrastructure, and increasingly the environmental impact had become a key value component.



ECO URBAN LIVING – THE INITIAL ECOSYSTEM

GOALS

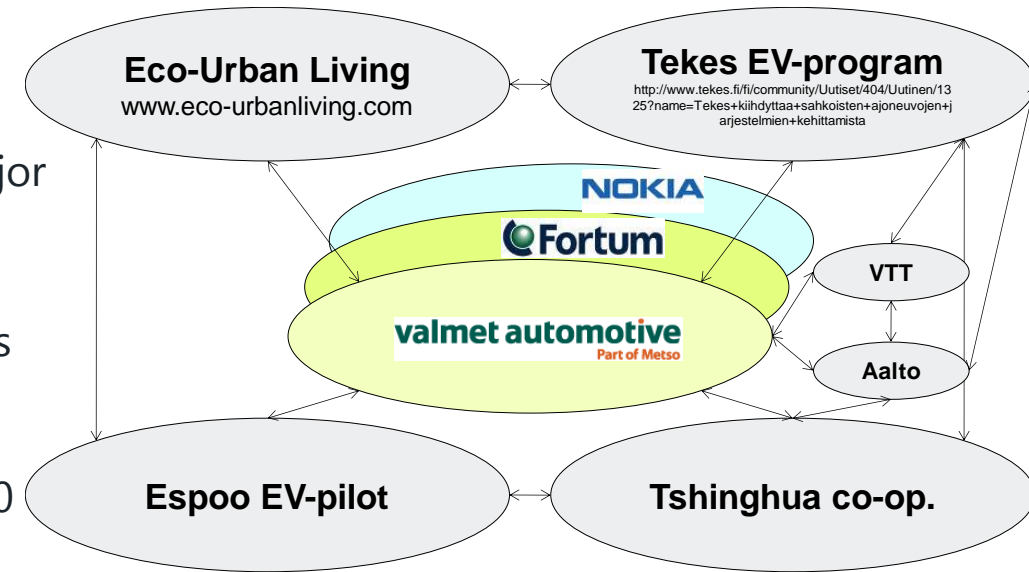
- Increasingly enterprises and governments collaborate to address major “grand challenge problems” and speed up innovation
- Finnish companies and the Finnish government must be active to be credible participants in shaping the solutions to the grand challenges

ACTIONS

- Ecosystem formation with Nokia, Fortum, Synocus and Espoo in 2010
- Scenario-building process with all relevant stakeholders involved resulting in the Eco Urban Living report
- Follow-up project initiated with the Finnish innovation agency, Tekes, resulting in the later development of a broader national EV-development program, EVE, with a budget of 100 million euros

RESULTS

- Concrete EV-pilot (Think EVs) in Espoo up and running in 2010
- Valmet Automotive China subsidiary established in 2011
- Battery research collaboration with Tsinghua University and ATL (predecessor of CATL) initiated in 2012 >> partnership with CATL 2017

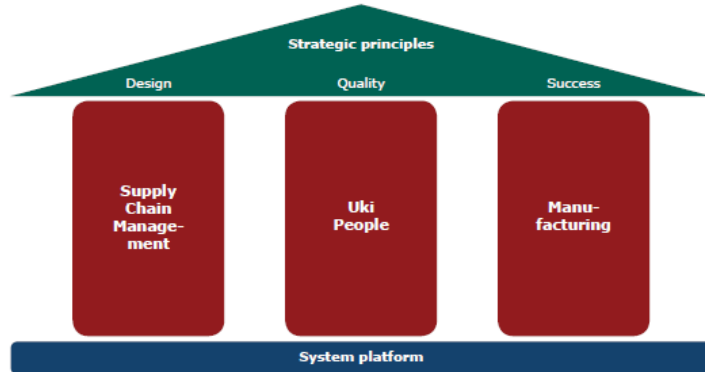


THE FOUNDATION OF THE ECOSYSTEM: UKI WAY (APRIL 2015)

valmet automotive

Uki Way

VALMET AUTOMOTIVE PRODUCTION SYSTEM – UKI WAY



Being competitive and enabling Valmet Automotive to provide customers with added value requires capable people, efficient manufacturing, and collaborative supply chain management (SCM).

The following is a summary of the three pillars of the Valmet Automotive Production System (the UKI people – UKI is the Finnish abbreviation for Uusikaupunki, manufacturing, and supply chain management), the strategic principles guiding them (design, quality, success) and the knowledge foundation, the system platform.

Supply Chain Management (SCM)

Today, suppliers and service partners comprise a larger share of the added value in cars produced in Uusikaupunki than Valmet Automotive itself. This reflects the networked nature of the automotive industry. The core of the manufacturing competitiveness is in managing the daily flow of materials, with a constant awareness of changes and disruptions in the operating environment. Furthermore, Valmet Automotive works together with suppliers and partners in long-term development projects to improve efficiency while maintaining quality standards.

The UKI people

Valmet Automotive stands apart from its competitors through its dedicated personnel. Two aspects are especially crucial: agility and collaboration. Agility and collaboration have always been seen as the most important factors within Uusikaupunki. However, today's environment requires agility and cooperation throughout the whole network, including suppliers and partners. This demand creates new challenges for Valmet Automotive. The practice of continuous learning together with network partners has become a significant new competitive edge.

Manufacturing

The quality awards for the Porsche models manufactured in Uusikaupunki are still widely respected in the automotive industry. Today's production processes are increasingly automated, and Valmet Automotive's expertise in robotics has ensured a continued position as a quality leader. A number of factors contribute to competitiveness in manufacturing. Strong manufacturing engineering, well-organized production processes, proactive individuals, and flexible data systems form a systemic entity which has provided customers with high quality cars, year after year.

Design

The importance of design and planning is emphasized in all of Valmet Automotive's operations. High quality production and a reliable flow of material cannot be realized without detailed planning. Today's environment also requires addressing external factors when designing the network, because achieving optimal results is not possible without the seamless cooperation of the entire network. Here Valmet Automotive must often educate its network partners, in the interest of achieving shared goals.

Quality

Valmet Automotive adheres to the principles of quality thinking in the same way as all other major auto manufactures. The distinctive factor, however, is that quality production is a personal concern for the employees at Uusikaupunki. There is a strong desire to meet requirements in all operations. When a decision is made on what to do, it gets done. No one needs to look over the shoulder of their colleague. Nonetheless, there remains a sense of self-criticism and there is always room for improvements. It is not, however, always easy to see the best path forward. Leadership plays a crucial role in identifying the correct direction.

Success

Success breeds further success. The Uusikaupunki plant has always offered an opportunity to manufacture leading products. This, in turn, has served as a strong motivation for the professionals at Valmet Automotive. Given the opportunity to work with the best has also instilled a need to live up to this level of excellence, developing skills to meet this demanding level. Renewal and development are even more crucial today than they were in the past. The ambition is to also be able to carry on working with the world's leading automotive industry experts for years to come. This requires continued success also in the future.



Systems

The knowledge and expertise which Valmet Automotive has accumulated is no longer in the head of any single individual. This expertise is only located in the production support systems. This means that these systems are not simply tools but that they serve as enablers and they maintain cohesion. New operational requirements affecting production must always be integrated into the systems. As efficiency requirements increase, turnaround times grow shorter, and networks grow larger, systems become increasingly significant. Therefore, the other side of operational development lies in the development of the systems supporting operations.



Sourcing

The sourcing department supports Valmet Automotive's strategy as well as its ability to realize strategic and operative targets through cost effective procurement and the use of quality, reliable suppliers that are capable of fulfilling the aforementioned requirements. The sourcing operations are in a central role in managing supplier relationships, in which the purchaser is seen as the owner of the supplier relationship.

Supplier Development (SD)

Supplier Development assists Valmet Automotive in scanning new parts suppliers (serial material) and, in the project phase, ensures their ability to meet the quality standards set by Valmet Automotive using the APQP process (Advanced Product Quality Planning). SD also carries out supplier auditing in the process of selecting suppliers. SD is responsible for quality control during serial production, using the QCR process (Quality Control Report), as well as improving the quality of suppliers' operations.

Transports and packaging design

Valmet Automotive's location has led to the optimization of transportation concepts (i.e. milkrun, rail concepts, connections by sea to Uusikaupunki) over the years, ensuring that trailers are filled to maximum capacity and, therefore, transportation expenses are as low as possible. When selecting partners, Valmet Automotive has aimed to ensure that transportation is carried out according to its planned approach. Ideal packaging design depends on developing optimal, collapsible packages which meet quality requirements.



VALMET AUTOMOTIVE – CATL PARTNERSHIP; JANUARY 30, 2017

- Valmet Automotive and Contemporary Amperex Technology Limited (CATL), a leading global provider of battery and energy storage solutions, have entered into strategic partnership in electric automotive solutions. Simultaneously CATL has subscribed to new shares issued by Valmet Automotive for a 22 % ownership in the company.
- Competences and businesses of Valmet Automotive and CATL are strongly complementary. The companies will together build capabilities to support the leading European automotive manufacturers and their suppliers by engineering electric vehicle drive train solutions and supplying battery packs to them. The partnership also strengthens CATL's position to enter the fast evolving European electric vehicle market.
- The strategic partnership of Valmet Automotive and CATL will be focusing in particular on project management, engineering and battery pack supply for electric and hybrid vehicles.



A BMW i8 plug-in hybrid sports car is on display at an auto show for new energy vehicles in Hangzhou, Zhejiang province, in September. Contemporary Amperex Technology Ltd based in Fujian province is a battery supplier for BMW. Long Wei / For China Daily



AUTONOMOUS VEHICLES AND MOBILITY SERVICES, AVM-ECOSYSTEM 2017-

Vision:

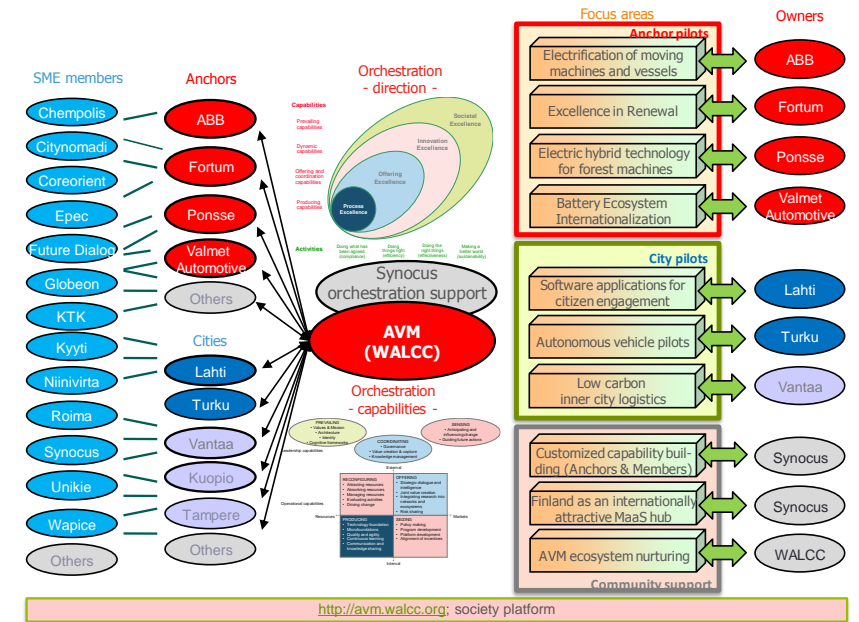
- Integrate public and private interests in co-creating new mobility services markets in a global context.

Strategy:

- Accelerating innovation by conducting piloting and capability building activities
 - transport related technologies (e.g. 5G, electrification, autonomous driving), and
 - mobility services and new business models integrating public and private transport service.

Members:

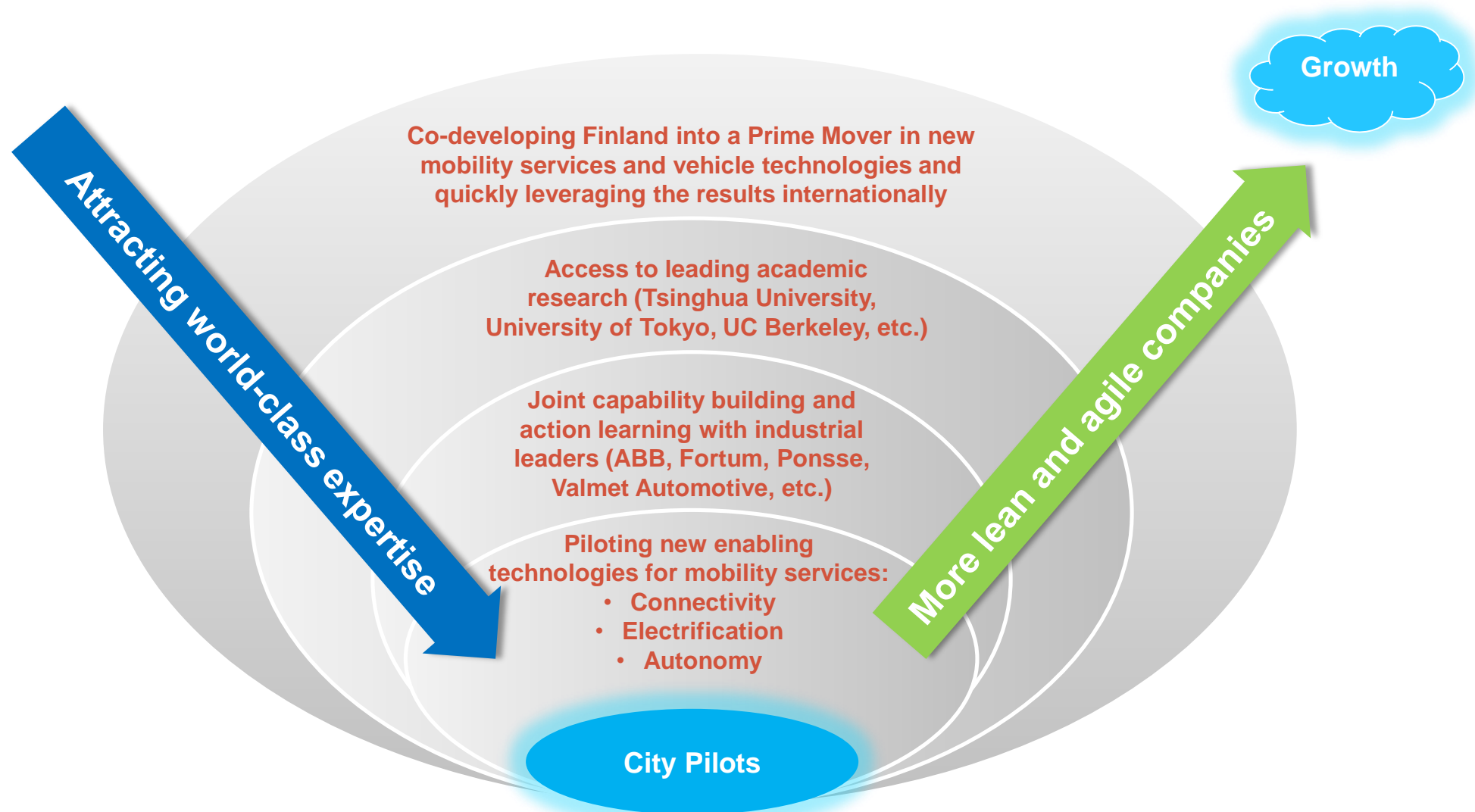
- Anchor companies; ABB, Fortum, Ponsse, Valmet Automotive and others.
- Cities and SMEs (small and mid-size enterprises).



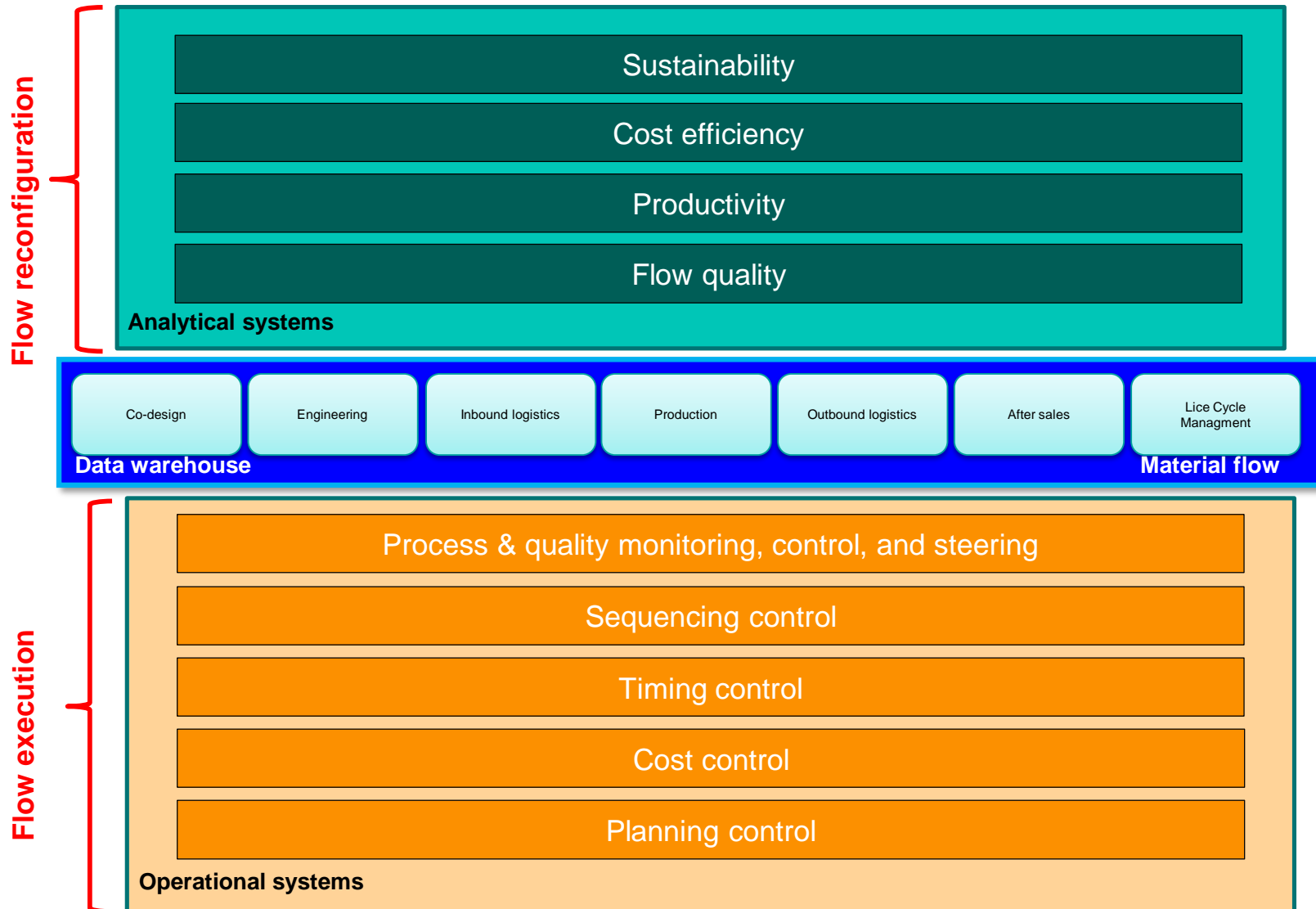
		Q1-2018	Q2-2018	Q3-2018	Q4-2018	Q1-2019	Q2-2019	Q3-2019	Q4-2019
I Initiative portfolio	I.A Anchor initiatives	ABB initiative Fortum initiative Ponsse initiative Valmet Automotive initiative		New anchor initiatives; prepara					
	I.B-C Global & member initiatives	JPI appl			JPI project???				
II Member activities	II.A Anchors	Brussels Lund Stockholm Oslo		AVM Slush					
	II.B Members	Anchor specific activities & Anchor recruit		campaign					
	II.C Cities	SME member specific activities & SME re		ent campaign					
III Ecosystem nurturing and capability building		City member specific activities & City rec		ent campaign					
		Member agreements	Portal set-up	Shaping Switzerland AVM US Video	Shaping USA AVM Slush Video	Shaping UK	Shaping Japan		



AVM – THE MISSION



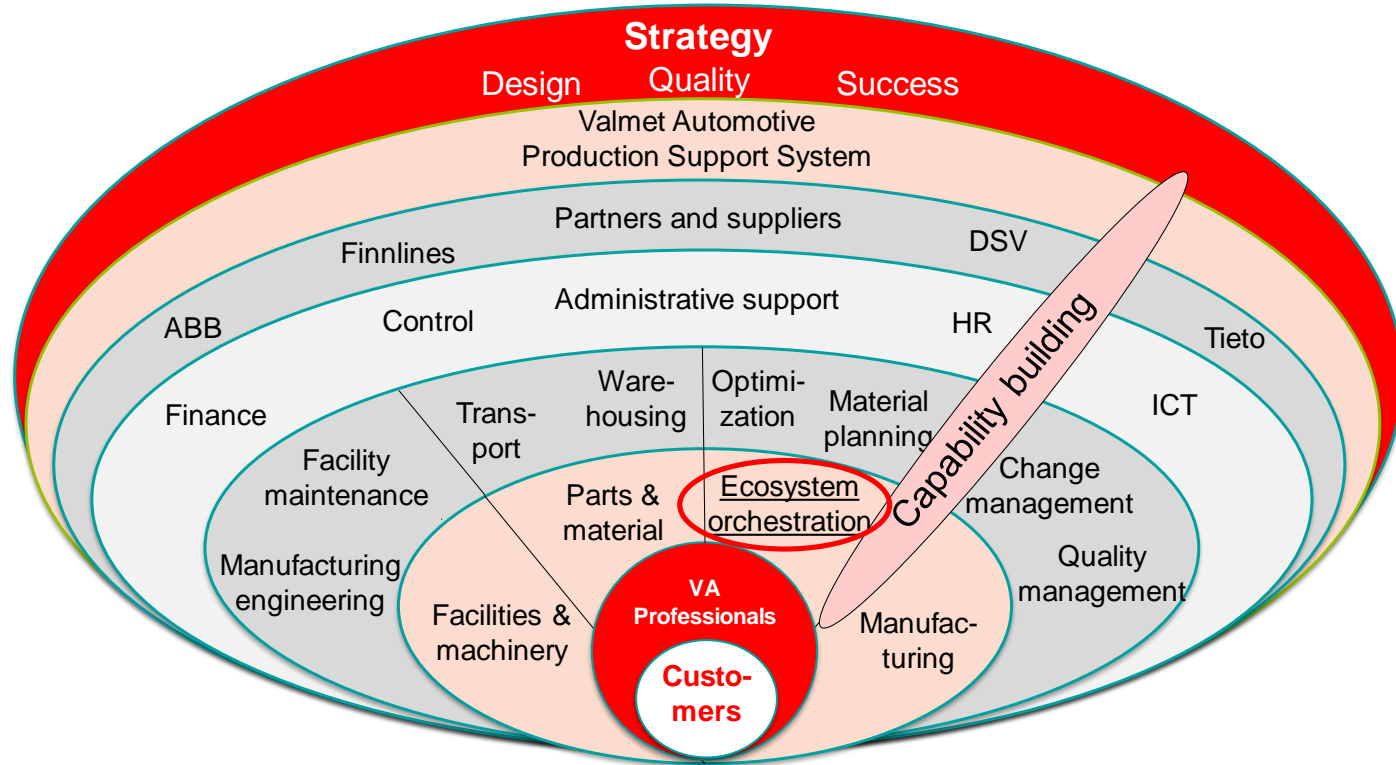
UKI WAY 2.0 - SUPPLY CHAIN DIGITAL TWIN



On the path towards UKI Way 2.0

- New ERP set up as foundation
- New data warehouse in use
- Next step is to configure the definition of digital twin for us meaning UKI way 2.0

CHALLENGES AND OPPORTUNITIES



Challenges:

- How to read the market in the future?
- How to manage the rapid growth?
- How to secure the needed talent?
- How to keep agility?

Opportunities:

- Quality-driven customer satisfaction!
- Early emphasis on electrification!
- Strong ecosystem orchestration capability!
- Public-private partnership experience!



THE FAST LANE TO THE FUTURE VEHICLES

THANK YOU FOR YOUR ATTENTION



VALMET AUTOMOTIVE