BENTELER Automotive Raufoss AS





BENTELER WORLDWIDE

As a competent development partner, we take customer proximity literally



Plants

Countries

Subsidiaries and **Trading Firms**



OUR STRUCTURE

BENTELER-Group



BENTELER Automotive

Chassis & Modules Structures Engine & Exhaust Systems Electro-Mobility

Asia/Pacific Mercosur North America North/Eastern Europe Southern Europe Western Europe



BENTELER Steel/Tube

Energy Industry

Seamless Welded



BENTELER Distribution

Asia/Pacific
Eastern Europe
Northern Europe
Southern Europe
Germany
Switzerland
United Kingdom

CORPORATE FUNCTIONS



BENTELER Glass Processing Equipment

Plant 122 - Raufoss

Plant, Engineering, Sales – CH (ALU), ST (ALU)

Production area: 33,332 m²

KPIs

Headcount avg. 508 FTEs

Company Sales (Net) 215 mn EUR

Applied technologies:

- ALU Casting
- ALU Extrusion
- ALU Strech-Bending and Forming
- ALU Heat Treatment
- ALU Machining (incl. CNC)
- ALU Welding and Assembly (Automatic)
- Other capabilities: Tool Shop, Prototype & Testlane





PRODUCT REFERENCES – ALUMINIUM



BMW 1-, 2-series [F4X] R BMW 5-Series [F07-F10] F BMW 6-, 7-Series [G1X] F BMW X5, X6 [F5/16] R **BMW Z4 [E89] F/R BMW i3, i8 F**

Cadillac STS [GMX 295] F/R Cadillac CTS [A1II] F



Chevrolet Cruze F/F Chevrolet Corvette **Buick Excelle [D2XX]** Buick Regal [E2XX]

Volvo XC90 [V526] F/R Volvo S/V90 [V54X] F/R Volvo S60/V60 [Y283/Y352] Volvo XC60 [Y413] F Volvo V40 [Y555] F



Mini [R5X] R



Porsche Cayenne [E2] R Porsche Macan F/R



Forecast Production Volume 2017:

Approx. 8,5 million parts

IDEA F 500L F



Aston Martin DB9 F/R Aston Martin Vantage F/R



Rolls Royce Phantom [RR01] F/R

Audi A1 [AU210] F

Audi A3 [AU37X] F

Audi A4 [481] F/R

Audi Q5 [AU416] R

Audi TT [MQB] F/R

Audi Q7 [MLB] F/R

Audi A6 [AU 571] F/R



Audi

Renault Megane [X95] F Renault Laguna [X91] F Renault Clio [X98] F



Mercedes C-Class [W205]



Nissan Teana/Altima F/R Infinity Q50 F/R Nissa Pathfinder F/R Nissan Leaf [B12G] F

Jaguar XJ [X351] F/R



JAGUAR

Toyota Tundra [479A] F Toyota C-HR F/R



Holden Commodore [VE] F/R



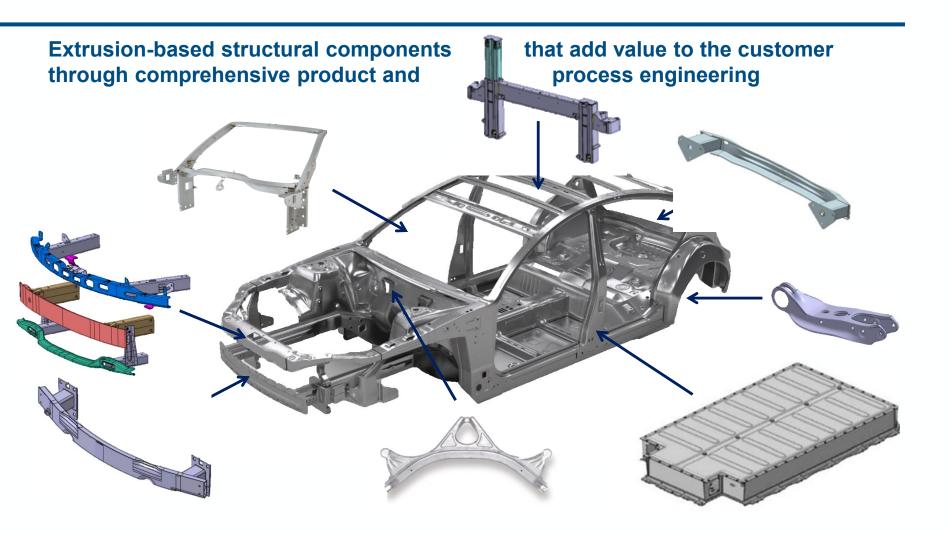
PEUGEOT 308 [T7] F 208 [A9] F 2008 [A94] F C5 [X7] F C4 [B7] R C4 Picasso [B78] R 308 NG[T9] R Citroen Cactus [E3] F/R Peugeot Expert [K0] R

Opel Corsa [S4400] R Opel Meriva [4470] F Opel Astra [D2JO] F/R Opel Insignia [E2XX] F/R

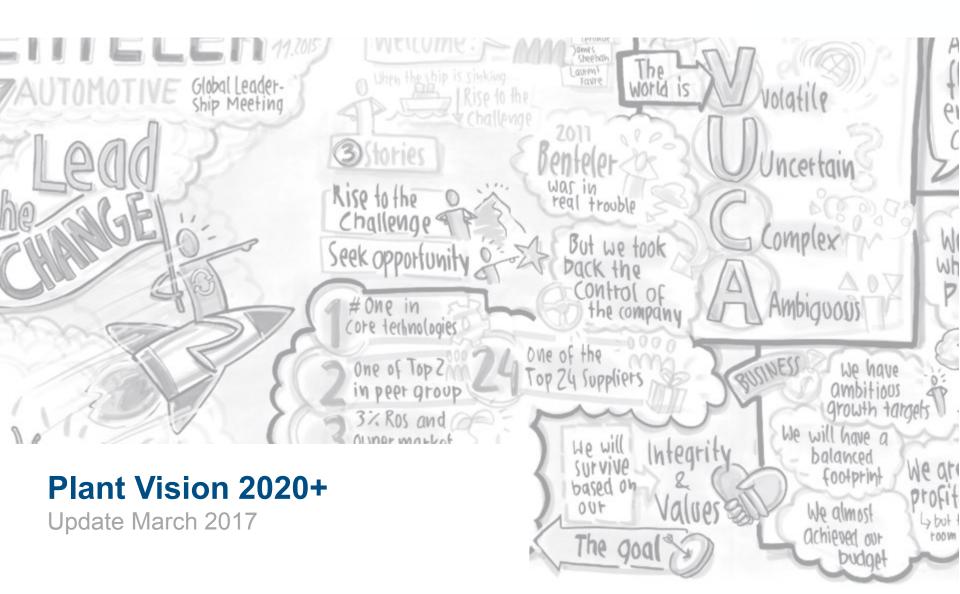


PRODUCT EXAMPLES

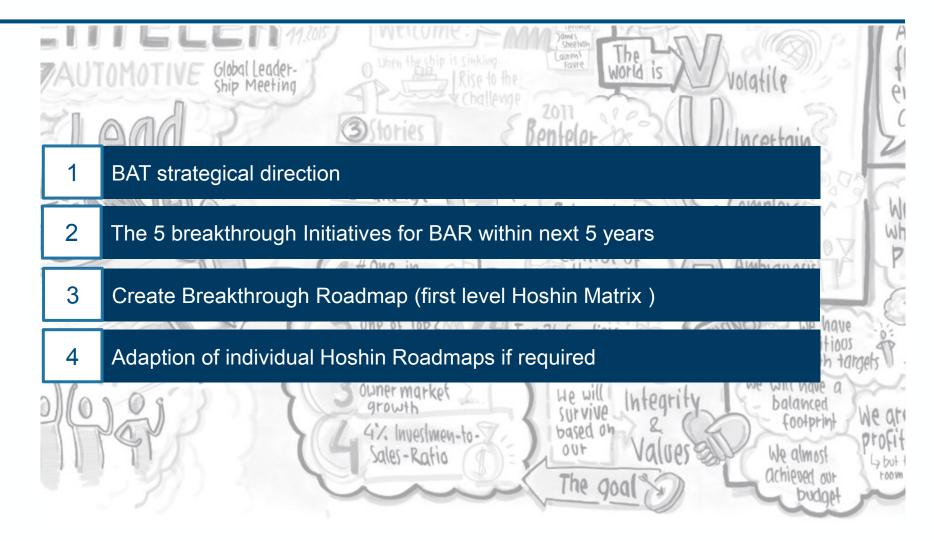
Smart products using best manufacturing concepts





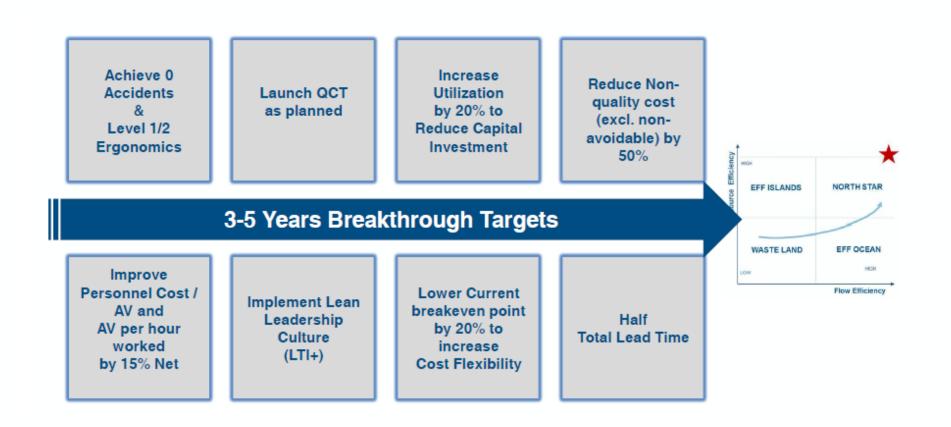


Objectives



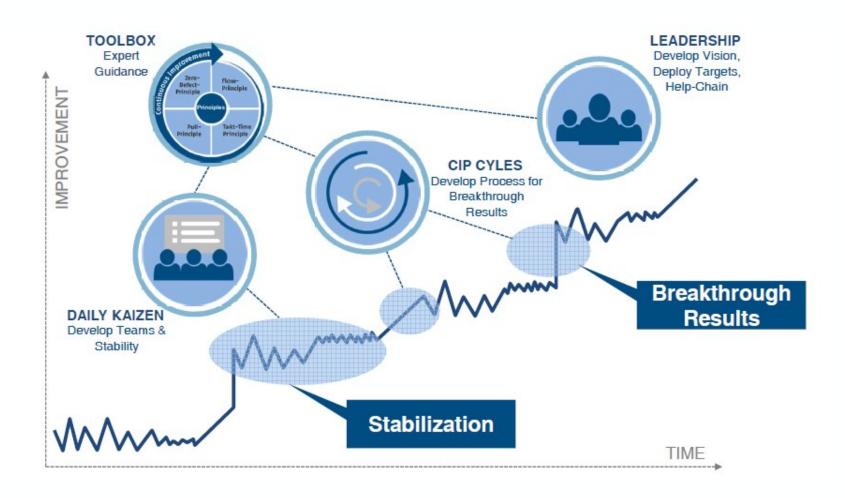


What is Lean Factory – Breakthrough targets





What is Lean Factory – Daily Kaizen and CIP Cycles





What is Lean Factory – Basic Features of BOSIe 2.0













GIVE MEANING TO ACTIONS



MOTIVATING AND DRIVING YOUR TEAM



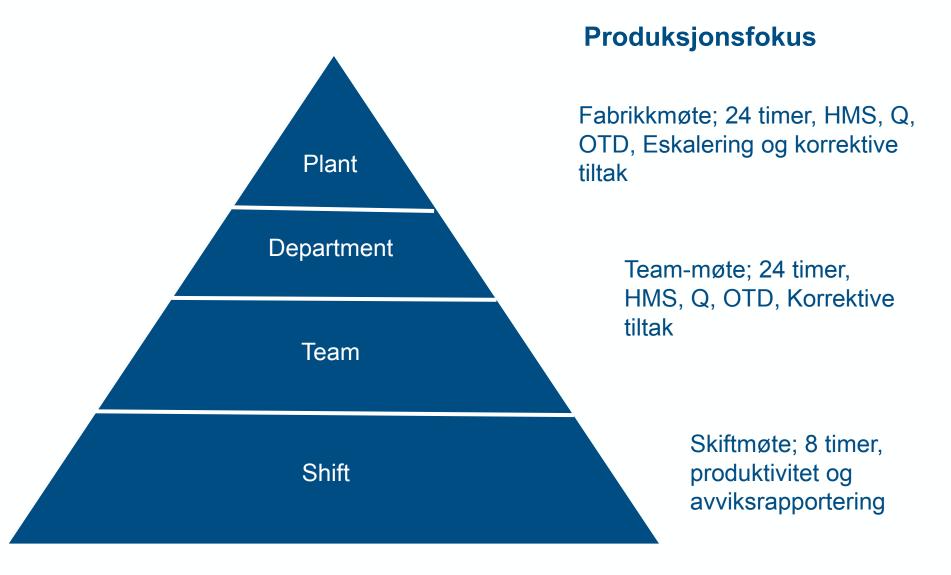
DELEGATING SIMPLE PROBLEM SOLVING



MANAGING THE PROGRESS PLAN

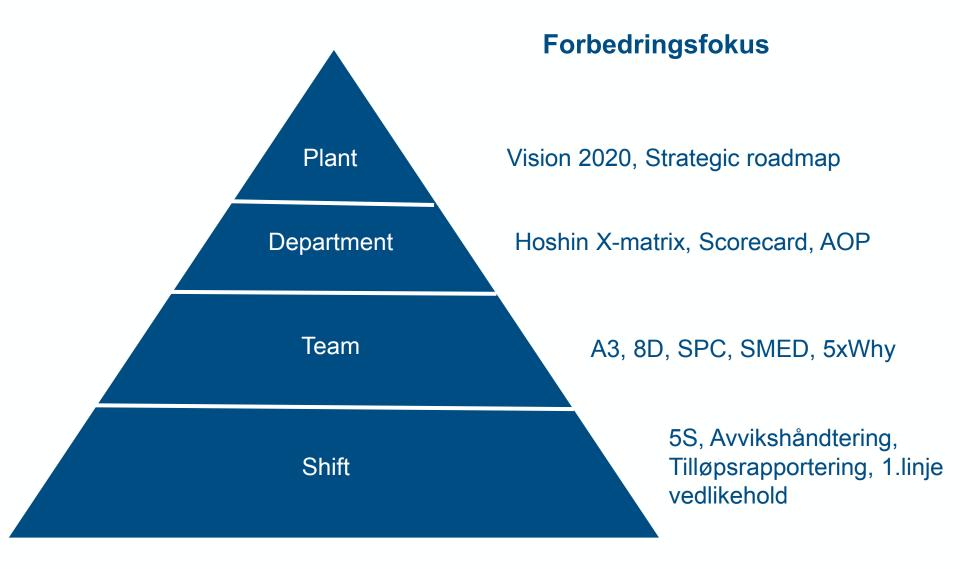
Organisere iht. arbeidsoppgaver





Organisere iht. arbeidsoppgaver





Hoshin X-matrix

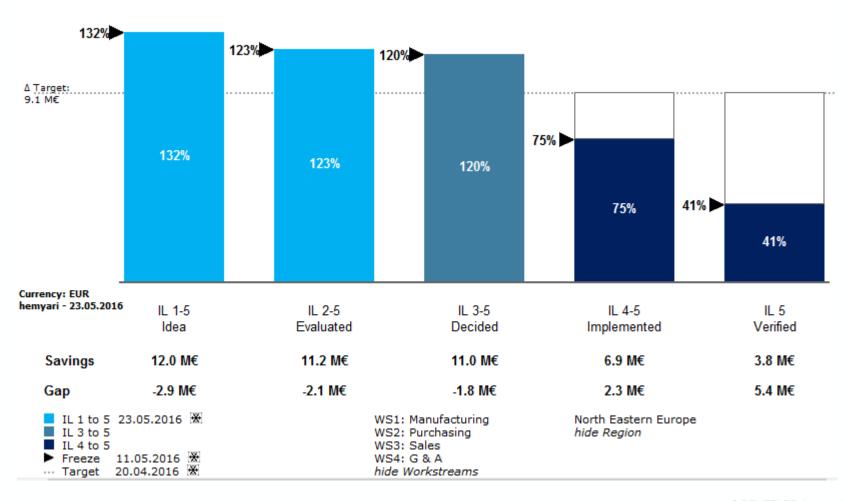


Automotive

BENTELER Automotive 2016-2020+ Level 1 Policy Deployment: Benteler Automotive Raufoss											AP				Ståle Hunstad							
motive									Benteler Automotive Raufoss		A	KP_					R	AsCI			_	
•	•	•	•		•	•			Re-establish 5S standard in all production areas				•			С		R		А	\Box	
	•				•				Improve Cpk on the pilot project	•		•		S		R		R R	S	Α		
	•				•				Identify products with potentially lowest Cpk to nominate a pilot projet	•				S		R		R R	S	Α	T	
			•						- Bottleneck managment for work centers with and status reporting	•		•	,			С		R C		Α	\forall	
•		•	•		•				Balacing workloads	•			_			С	_	R C		_	+	
_	-								Create work distribution chart and "Puntual lessons" Standardised work for all manual works e.g. Pit-Stops (DH), SMED	_	_		-					_			\dashv	
	•	•	•		•					•	•	•	_			С		R R		A	4	
•		•	•		•				OEE based TPM workshop (DH) to improve preventive maintenance (TPV stop)	•		•	•			С		R R		Α		
							•		VSM/VSD workshopes for each high runner products to reuduce WIP with target (2,5 days)			•		1	1	I R	Α			R		
		•			•	•	•		Facilitated CIP team and workshops	•		• a	,			R						
		•			•	•	•	•	Root cause analyse traning and facilitated practicing	•		•	,	С	1	ı s	С	A S	С	R I		
			•	•		+	•		Arrange workshops with production leaders for defining next level initatives to realise the overall target picture	+		-						S				
						-		-	Define A3 project in all production areas			_ _	-		-			_				
		•	•	•	•	•		•		•	_	• •	+-	S	-	c s		S S		A S	S	
		•	•	•	•			•	Carry out OEE improvement for each relevant workcentre by means of SMART targets	•	1 - 1	•		1	1	C S	S	R I	- 1	A I		
		•	•	•	•			•	Establish a systematice for reporting OEE for each workcentre	•	•			1	1	I S	- 1	R S	1	A R		
									1	_ `							Stake	holders	s			
N Accurat and repeatable manual work in a standardised work	Process capability of minimum 1,33 for all SCs and SPCs	Navailability of all workcentres are increased by 10%	A 100% Machine performance i.e. Machines' C/T is the same as BDT	w Strategic goals are broken down into tactical goals in all areas	N scrap rate of all work enters are reduced by 10%	All counter measures are based on a root cause analyses	the strategic goals such as materialflow and optimized WIP are understood by all production leaders and their teams	-Each production leader has one CIP team - Each CIP team carles out 5 A3 project the respective production areas - Production leader acrountable for A3 report and the nervexes	ACCEPT THE CHALLENGE. LEAD THE CHANGE. BAT Global Leadership Maesting 18.11.2014		_	Number of A3 and BPS on increased productivity (pieces / direct man hour)		:003	34S	HR:	3001	5 6	ENG/Wantenance: B.U:	OP:		
									AP 2017 Target Picture							Inte	rrelati	ionshi	p keys			
								•	Apply standard methodic for problem solving							relation						
•	•	•	•		•	•	•		Reduce repeating failures with viable solutions Set priorities systematic and standarise								tionship)				
_	+		_	•		+	-		Increase cooperation instead of competitions							ct relation						
				•			•		Set cohrent local KPIs							lationshi						
										***	\$2\$ E	⊕ 828%		10	RoS (E	EBIT) [>69	Target P			%) [20%	_	

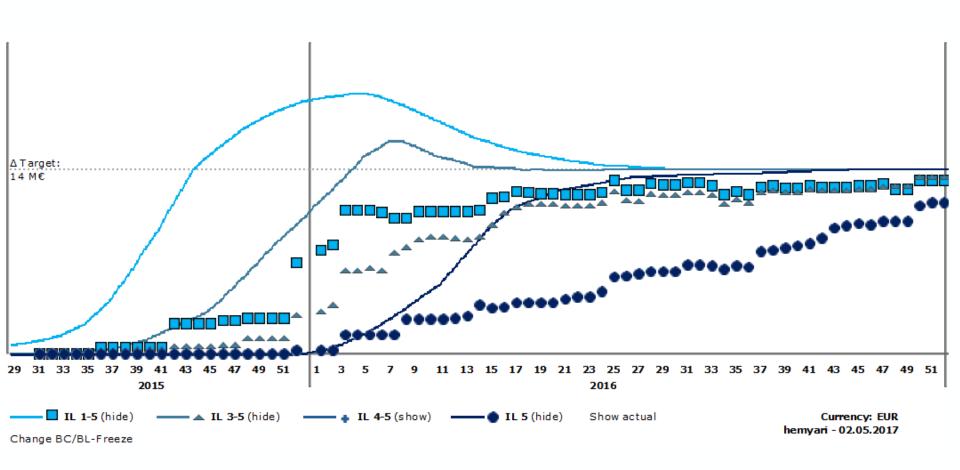


AOP (Action Oriented Planning)



AOP 2016 RAMP-UP

EUR

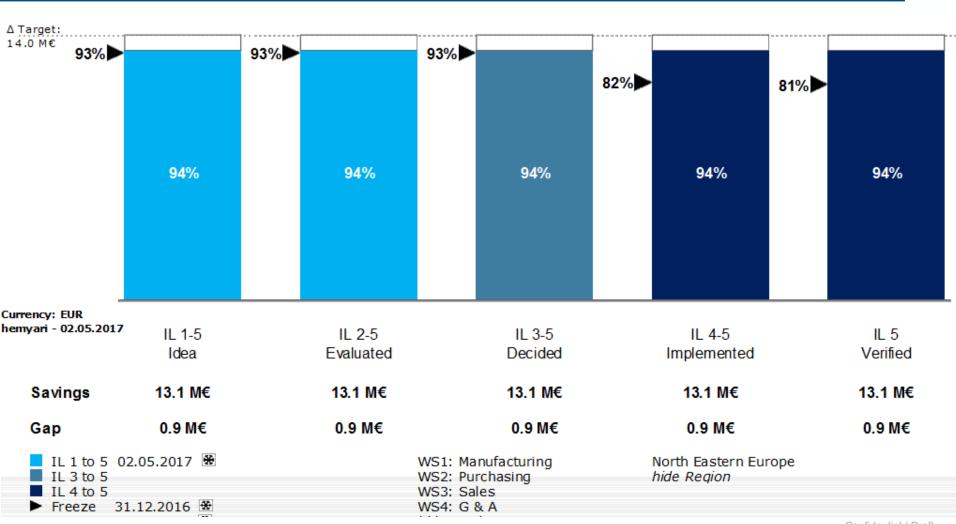


BENTELER Automotive Raufoss



AOP 2016 STATUS OF IMPROVEMENT ACTIONS

Freeze 31.12.2016



What is Lean Factory – Expectations to the plant managers



- **❖** High level of commitment and proactivity
- ❖ There is not way around it
- ❖ Take it and implement it
- Review during Plant Visits

This is NOT another activity. This is THE Activity!!! The ONLY Activity