Worldwide Painting & Sealing process

EuroCar 2014
Two Experts, One Exel Group, One Strategy

16 subsidiaries, including
7 Automotive Solution Centers
700 employees

Turnover 2013: 740 Mio €
3 600 employees
From Pump to Applicator standard solutions

Paint atomizer  Sealant / Adhesive Shotmeter  Sealant / LASD / Adhesive / Paint Pumps

3Wet Waterborne Compact Paint Process in PSA

UBS robotic application in Renault

LASD in PSA
3 Wet Waterborne Compact Paint Process in PSA group

Compact Process deployment:

- 2011: Sochaux Line D
- 2012: Sochaux Line E
- 2013: DPCA Wuhan 3, CAPSA Shenzhen
- 2014: Sochaux Line F
3Wet Waterborne Compact Paint Process in PSA group

Sochaux

2013 - 51 jph – 12 – 4

2013 - 34 jph – 24 – 8
Waterborne Compact Paint Process in PSA Sochaux

3 Painting lines
43 jobs/hour
Line speed 4.52m/min
BC0/BC1/BC2 1K WB
CC 2K SB monocat

PSA Sochaux 2012
Base Coat Interior
Movie

Flash off
4min 35s
BC0 Exterior

Flash off
4min 35s
BC1 Interior

Flash off
2min 44s
BC1 Exterior

Flash off
8min
BC2 Exterior

Flash off
2min 44s
CC Interior

Flash off
5min 30s
CC Exterior

Low bake
8min
Oven 145°
5min 30s
EUROCAR 2014
Waterborne Compact Paint Process in PSA Sochaux

3 Painting lines - 43 bodies/hour each

Phase 1 SOP : June 2012

BC0
Exterior

BC1
Interior

BC1
Exterior

BC2
Exterior

CC
Interior

CC
Exterior

100% robotic
BC WB

100% Internal charge
CC SB 2K
Waterborne Compact Paint Process in DPCA Wuhan

2 Painting lines - 51 bodies/hour each  
SOP : 2013

BC0 exterior
4 robots
4 internal charge bells

BC1 exterior
4 robots
4 internal charge bells

BC2 exterior
4 robots
4 internal charge bells

CC exterior
4 robots
4 internal charge bells

WB 100% Internal charge  CC SB 2K
Waterborne Compact Paint Process in CAPSA Shenzhen

2 Painting lines - 34 bodies/hour each  
SOP : 2013

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WB  
100% Internal charge  
CC SB 2K
From Pump to Applicator standard solutions

3Wet Waterborne Compact Paint Process in PSA

UBS robotic application in Renault

LASD in PSA
UBS robotic application in Renault

- **Sunderland**
  - 2013 - 45 jph – 6
  - 2014 - 60 jph – 16

- **Novo Mesto**
  - 2013 - 20 jph – 5

- **AvtoVaz**
  - 2012 - 60 jph – 7

- **Avtoframos**
  - 2013 - 20 jph – 5

- **Pitesti**
  - 2011 - 63 jph – 15

- **Curitiba**
  - 2012-13 - 60 jph – 18
UBS standard solution

- 4 balls recirculation pump
- StreamLoop
- Robotic gun application
- Easy2Dispense Software

EUROCAR 2014
**UBS standard solution:** *Quatro HP 4 ball pump*

- **Booster** and **recirculation** pump
- Feeding during up & downstroke
- Symmetrical design for **best balance** pressure
- **Most efficient** technology in booster operation

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UBS standard solution: StreamLoop Dispense Regulation

Closed Loop Regulation

Fast: Adjust itself continuously

Robust: Learn from previous job gap

Accuracy over 3%

Flow order

Flow measured

Spray

Spray On

Stop

Spray On

Stop

Regulation

1st Time to reach order

n

n+1

Shorter Time
Long experience in **Paintshop** management software

**Ergonomic HMI**

**Monitoring** system
UBS standard solution: Robotic Engineering

From CAD files to application lab

From platform in Meylan to Renault facility
Simple is Smart

No rails (7th axis)

No vision systems

Smart & inexpensive nozzles

Nozzle control tool

Only 1 HMI for controlling all robots
Rocker panel protection : Technical trick

Low capacity rocker panel protection

Only 1 robot for both sides + palpate = 65s*
From Pump to Applicator standard solutions

3Wet Waterborne Compact Paint Process in PSA

UBS robotic application in Renault

LASD in PSA
Liquid Applied Sound Deadener in PSA
LASD market Trend

- Versatility
- No Dust generation
- Low manpower intensity
- Ultra low weight
- No odor

Manual Pads

Robotised application
Movie

From pump to applicator
Pump Range which fits all requirements

- A large pump Range with stroke of 120 mm or 200 mm (Long stroke)
- Available as Ball or Shovel
- Carbide options for abrasive materials
- Carbon Steel is Standard or Stainless Steel for WB
- Used for Feeding long pipes

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Automatic Gun & Nozzles

- Compact & Lightweight gun
- High Pressure & Flowrate Max 400 Bar
- Recirculation possible
- Compatible with different Nozzles
- Multiple output design (2D/3D)
Movie
Customer benefits

Global robotic solution from pump to sprayer

- Robotic solutions for liquid paint and high viscosity material
- Material circulation managed from drum to carbody
- High technology equipment integrated by Experts
- Global worldwide supplier