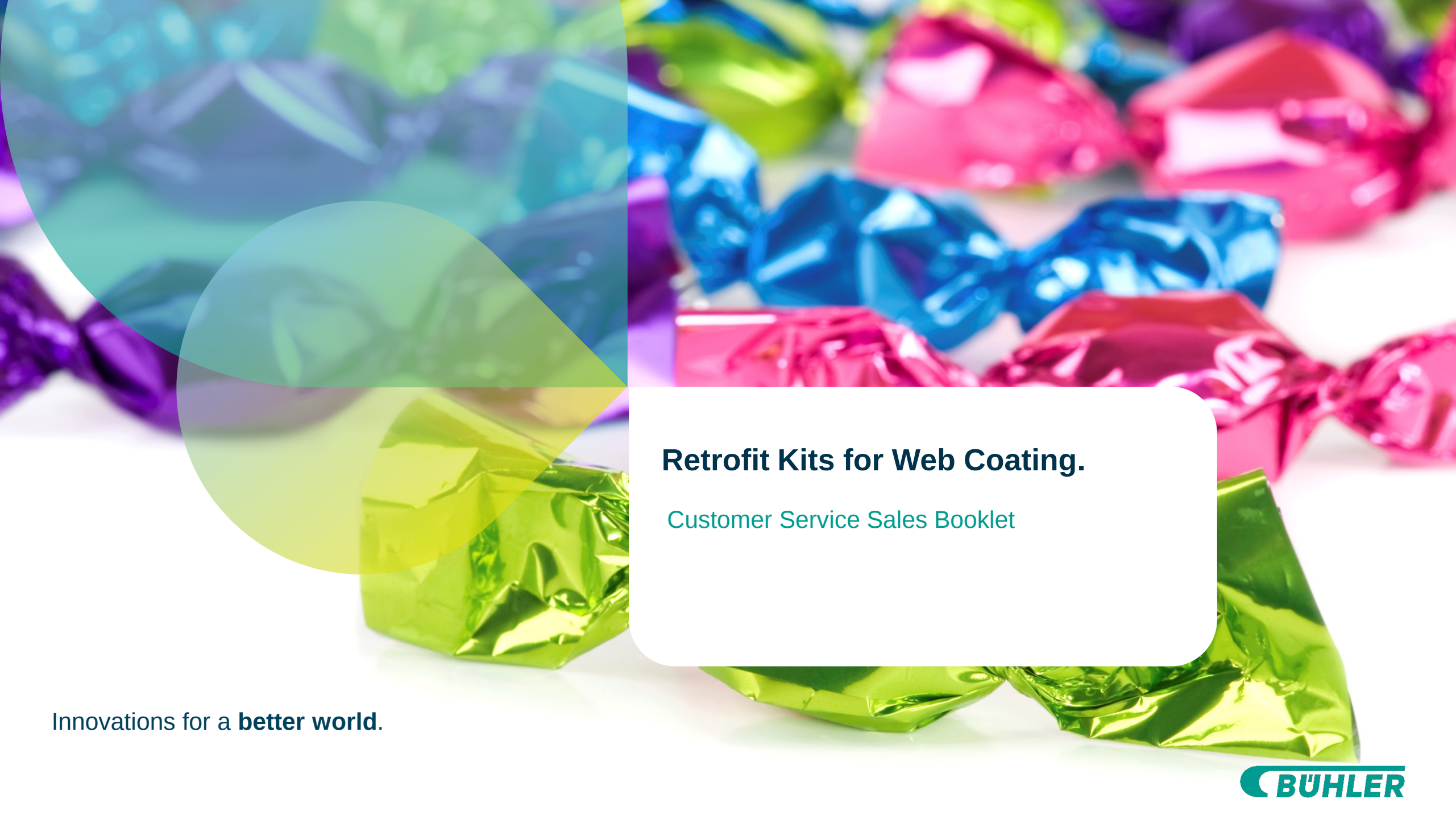




Retrofit Kits for Web Coating.

Customer Service Sales Booklet

Innovations for a **better world.**

Retrofit Solutions for Web Machines



Customer Support and Services.

Always on hand to sustain your business.

- Bühler Leybold Optics provides retrofits for complete machines and upgrades of control systems on old systems.
- Bühler's worldwide customer service as well as the fast delivery of replacement and wear-and-tear parts are just two important aspects of customer support. Preventive maintenance and inspection together with machine re-conditioning and upgrading round-off the after-sales services.

Retrofit Solutions

PLC + Visualization upgrade.

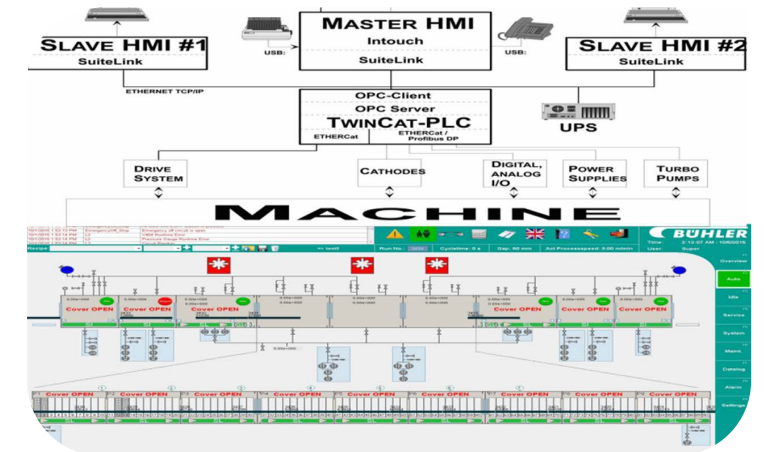
Solution:

- Fast and reliable service

Added value:

- The aim is to avoid downtimes and to keep the machines running
- One contact for all services

Lead time: 8 weeks
Installation time: 2 days
Approx. costs: 18k €



Retrofit Solutions

Hardware hot stamp mode upgrade.

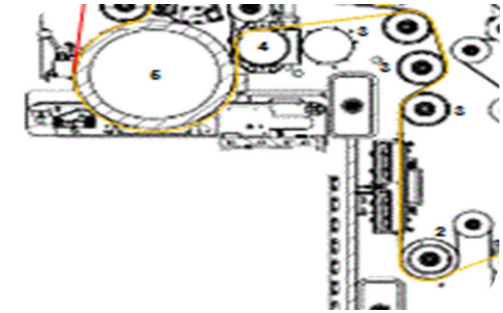
Solution:

- The film will be spread on non-coating side
- Replaced 3 guide rollers with special coated surface

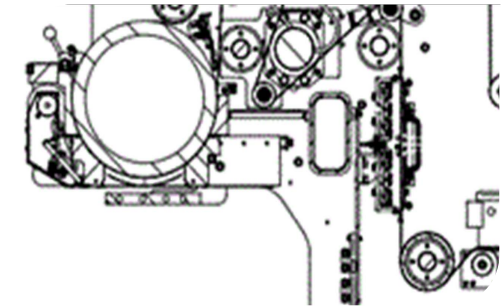
Added value:

- Cracks and star heaven will be enormously reduced
- Less defects on coated surface

Lead time: 12 weeks
Installation time: 3 weeks
Approx. costs: 180k €
(Hot stamp package)



before



after

Retrofit Solutions

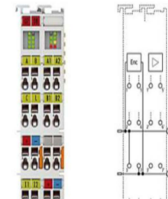
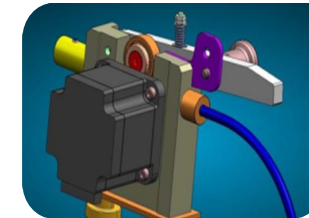
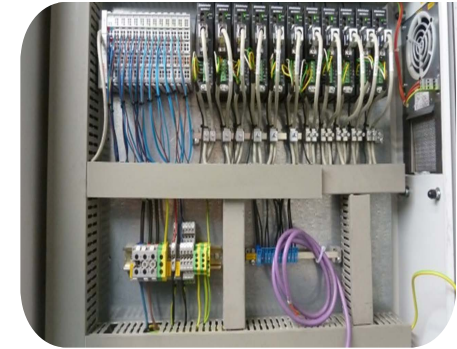
Alu Wire Feeder Controllers Upgrade to High Resolution Drive System.

Solution:

- Continuous and slow feeding of Alu-wire
- Software upgrade

Added value:

- High resolution for optimum layer uniformity
- Better jerk characteristic
- Specially designed for the sophisticated demand of thinnest layer
- Low rate applications



Lead time: 8 weeks
Installation time: 1 week
Approx. costs: 16k €

Retrofit Solutions

High Thickness Film Upgrade for PAK.

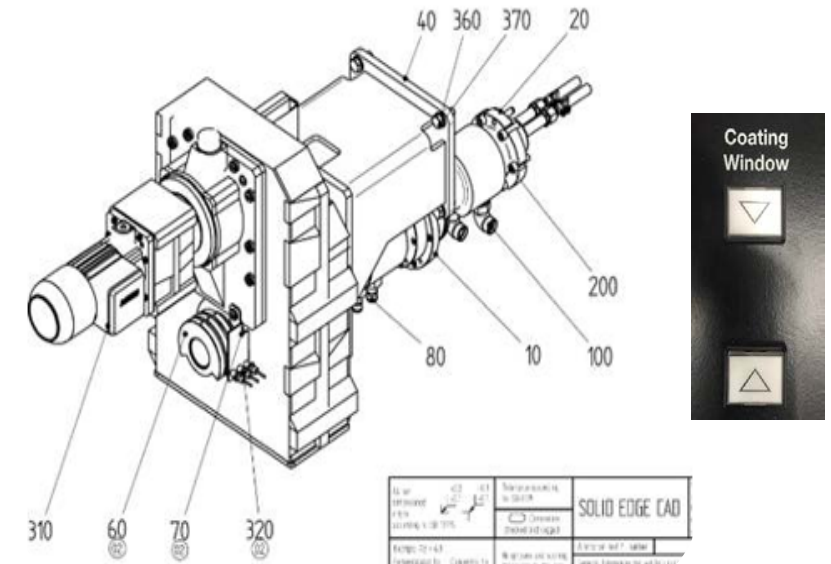
Solution:

- Software upgrade
- Flexible adjustment on the coating window
- Flexible substrate thickness

Added value:

- Additional limit switch

Lead time: 5 weeks
Installation time: 2 days
Approx. costs: 3k €



Retrofit Solutions

Gas Injection System Upgrade for PAK.

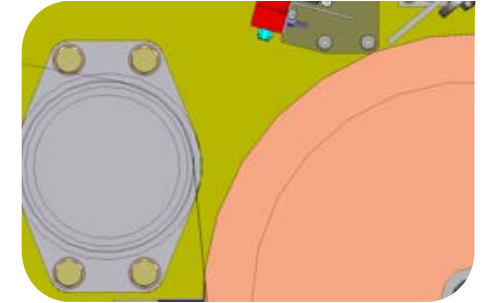
Solution:

- Adjustable airflow at inner and outer areas possible
- Available with needle valve or flow controller

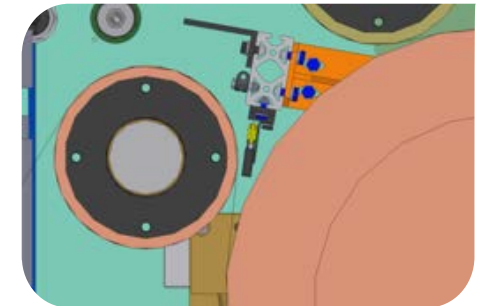
Added value:

- Better substrate cooling
- Reducing tram line

Lead time: 8 weeks
Installation time: 2 days
Approx. costs: 15k €



before



after

Retrofit Solutions

Pre Vacuum Pipe Reducing Oil Diversion Upgrade for PAK.

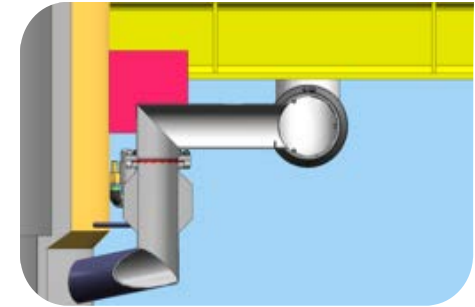
Solution:

- Improved cooling on pre vacuum pipe
- Improved oil condensation
- Less observation and maintenance

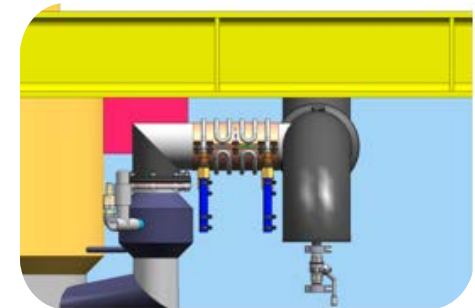
Added value:

- Cost saving on diffusion pump oil

Lead time: 4 weeks
Installation time: 3 days
Approx. costs: 15k €



before



after

Retrofit Solutions

Exactly Zinc Oven Positioning Upgrade for CAP-M.

Solution:

- Exactly zinc oven positioning
- Stepper motors instead of gear box motor

Added value:

- More flexibility
- Better controlling

Lead time: 8 weeks
Installation time: 2 days
Approx. costs: 14k €



before



after

Retrofit Solutions

Free Margin Oil Evaporator New Design Upgrade for CAP-M.

Solution:

- Reliable online operation

Added value:

- Improved distribution of oil steam
- Improved process reliability
- Improved accessibility for cleaning

Lead time: 8 weeks
Installation time: 1 week
Approx. costs: 41k €



before



before



after



after



Retrofit Solutions

Diss Package Hardware + Software Upgrade for CAP-M.

Solution:

- DISS + DISS PC + ALU FEEDER + ALU CROSS CONTROL
- Online observation and controlling

Added value:

- Simplified concept of operation
- Exactness of measurements
- All-in-one solution for free margin

Lead time: 16 weeks
Installation time: 1 week
Approx. costs: 200k €



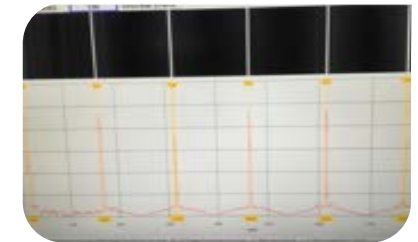
before



before



after



after



Retrofit Matrix for Web Machines

Retrofit Matrix for Web Machines.

CAP	✓	—	✓	—	—	—	✓	✓
PAK	✓	✓	—	✓	✓	✓	—	—
PLC + Visualization								
Hardware Hot Stamp Mode								
Alu Wire Feeder Controller								
High Thickness Film								
Gas Injection System								
Pre Vacuum Pipe - Oil Diversion								
Free Margin Oil Evaporator								
Diss Package Hard- & Software								



Consumables for Web Machines

Consumables

For CAP and PAK.



LOWC-13123-001 Aluminium wire
(99,9% 1,5 mm for CAP-M)

LOWP-14713-001 Aluminium wire coil
(D360 99,8% 1,8 mm for PAK)

LOAT-23569-001 Evaporator boat
(9,0*30*130 / 9,0*35*130 / 9,0*40*130)

- Suitable for a wide range of coating processes
- High evaporation rate
- High corrosion resistance

LONT-30535-001 Flexible graphite tape
25,4*0,25mm*30m

- To be placed between the front sides of the evaporator boat and holder clamps for better electrical contact
- High stability and easy to cut



Consumables

For CAP or PAK.



LOWC-13122-001 Hydrokollag 1 Box = 1 kg

- For CAP and PAK machines
- Graphit paste to protect metal surfaces in coating area for an easier cleaning



LOWC-13125-001 Fomblin Oil Y04 0,5 Ltr. = 1 kg

- For process with free margin oil evaporator and pattern on CAP-M



LOWC-12861-001 Silicone Oil AK 20 25 kg

- For process with proactive oil evaporator on CAP-M
- Good solubility in a wide range of solvents



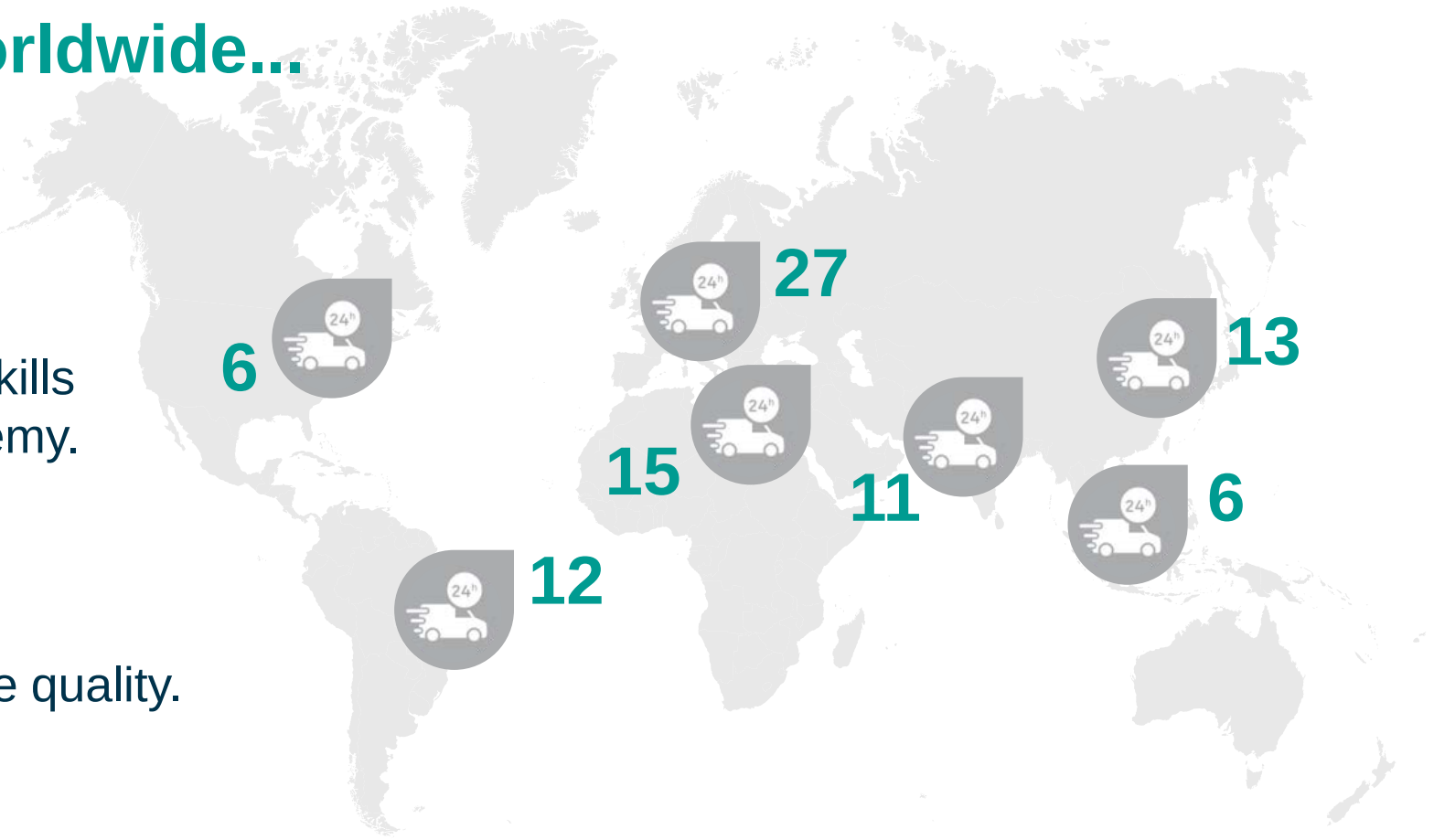
In the Region for the Region.

Differentiation through expansion of global service network.

90 service stations worldwide...

... for customer service along the entire lifecycle of their solutions.

- Continued investment in our skills on-site with our Service Academy.
- Ongoing initiatives for the reduction of our reaction time for customer enquiries.
- Commitment to highest service quality.



Engineering Customer Success.

Bühler 2017

