

B-Medical Systems



Jesal Doshi, Director – Strategy

- **Storage, transportation & processing of temperature-sensitive vaccines, blood and pharmaceuticals**



Incorporation date in Luxembourg

■ 1979



Number of employees in Luxembourg

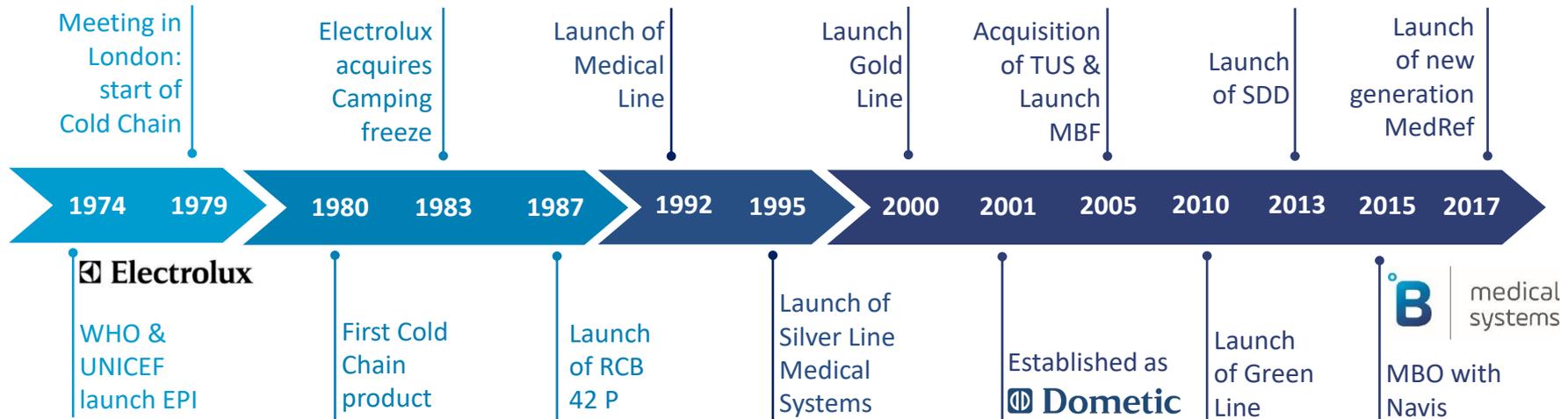
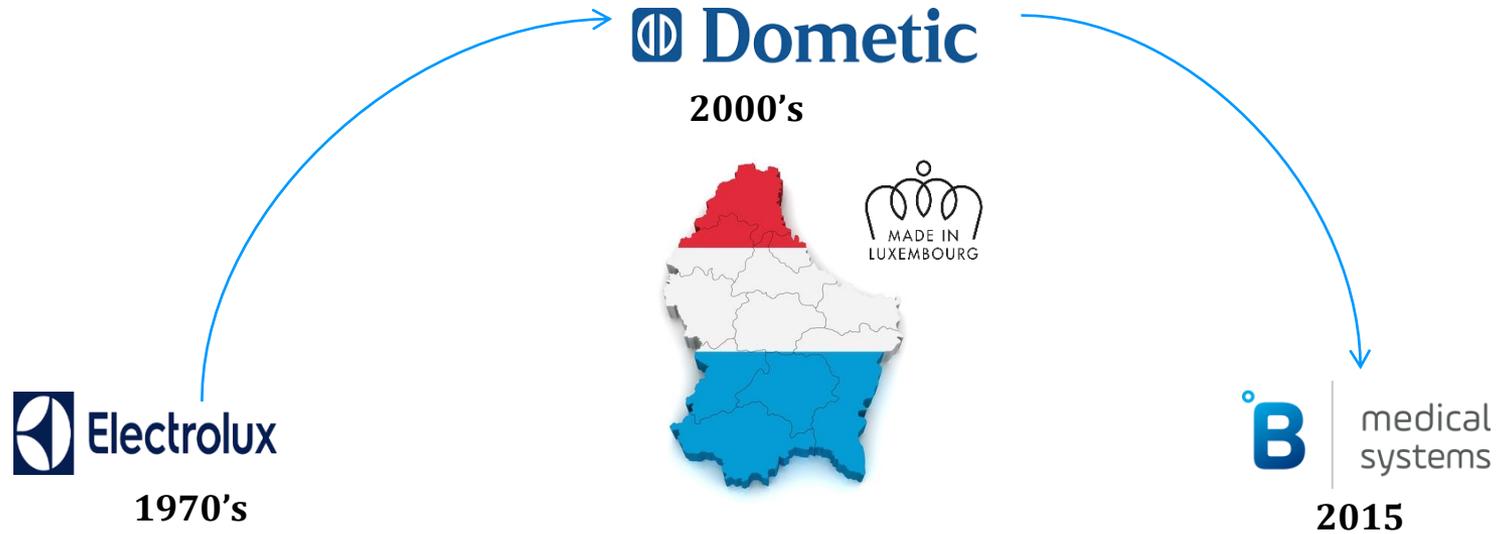
■ 250+



B Medical Systems- Shaping the future together

15th January 2019

B Medical Systems - 40 years of global expertise in cold chain & medical refrigeration



Offers around 100 products across three segments: Vaccine Cold Chain, Medical Refrigeration & Blood Management Solutions



Vaccine Cold Chain

Reliable and innovative solutions for safe vaccination around the world



Medical Refrigeration

Safe and risk free storage, transport and handling of temperature sensitive products/preparations



Blood Management Solutions

Innovative and safe solutions for the storage and treatment of blood and its derivatives



Remote Monitoring Solutions

Our reliable and innovative products and solutions have helped to save millions of lives and to create billions of dollars in social and financial return

B Med develops and produces mission-critical medical technology solutions that are integral to the safe handling, storage and usage of essential temperature-sensitive biological materials

Vaccines

20 million⁽¹⁾ infants were not immunized in 2017 alone



Each B Med vaccine cold chain unit prevents more than 150 illnesses, helps to save over 25 lives and creates \$4.4m in social value over 10 years⁽²⁾



Blood and Plasma

112 million blood donations annually, with several million wasted due to improper handling and storage



Up to 700 blood bags can be stored in a B Med unit with zero risk of wastage due to comprehensive temperature monitoring and traceability



Biological Materials

\$35bn of pharmaceuticals are wasted every year due to temperature excursions



Invaluable life-saving specimens and research samples are safely stored for years in B Med's Ultra Low Freezers



(1) Source: UNICEF (2017).

(2) "Cold Chain Reliability Social Value Results" – Prepared by Thoughts in Gear (June 2017).

Our technical capabilities are build around five core pillars:

Robotic Rotomolding



- **Technology leader in precision robotic rotomoulding** for medtech equipment
- **Synergetic use** of rotomoulding **across segments** - Cold Chain, MedRef & Blood

Industry Expertise



- High-end medical ref expertise with **>20 yrs experience** in MedRef/ Cold Chain
- **Deep customer understanding globally** through dedicated sales network

Technology Know-How



- Dedicated R&D team with **deep medical know-how** to deliver true value add to customers
- **Patented core technologies** (e.g., for platelet agitator, shock freezers) to sustain techn. edge

RFID technology



- **Proprietary RFID solution** developed with partners Hemosoft and Biolog-id
- **Technological platform** to equip entire product range and position us as a **solution provider**

Real Time Data Monitoring

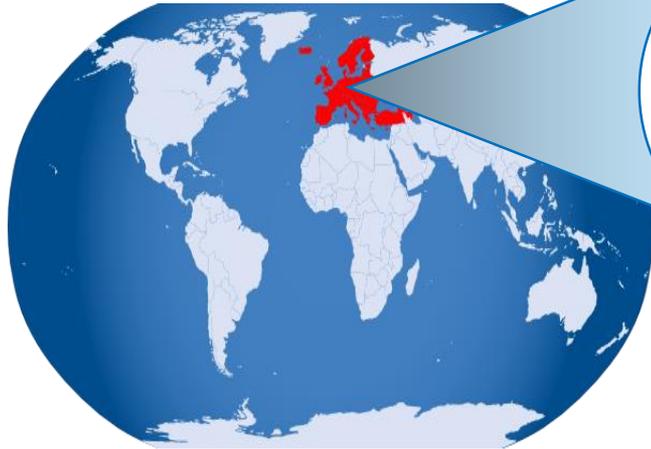


- GPRS based **data logging solutions** to provide real-time information on CCE for **efficient maintenance**
- **Solution platform (B-connected)** with potential to be used in all business segments

We Own the Entire Product Lifecycle (from Design to Sales and Service) to Ensure the best Product Reliability and Lowest Total Cost of Ownership

Significant investment in R&D and a diverse workforce in Luxembourg is key to our success

Diverse Workforce*



- Germany: 70
- Luxembourg: 62
- Belgium: 30
- Portugal: 20
- France: 8
- Italy: 5

*Major nationalities

Product Innovations



Ultra 16 SDD



Contact Shock Freezer



Health Centre Kit



Incubated Platelet Agitator

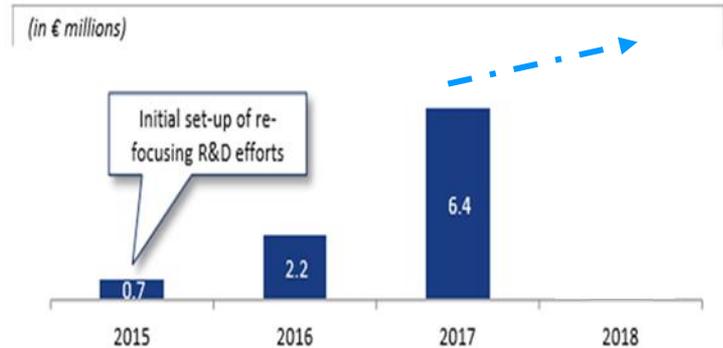


Ultra Low Freezer

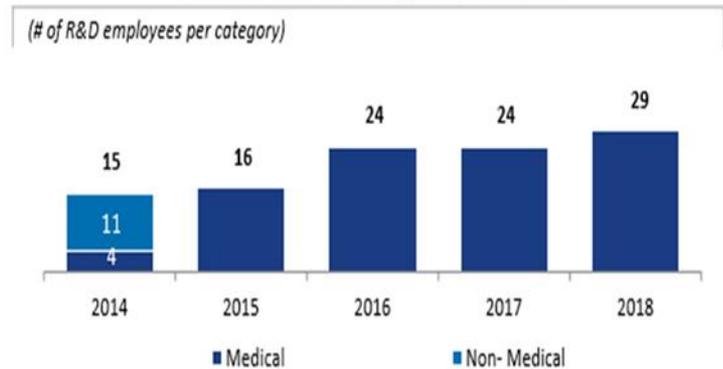


Data Logger

Investments in R&D

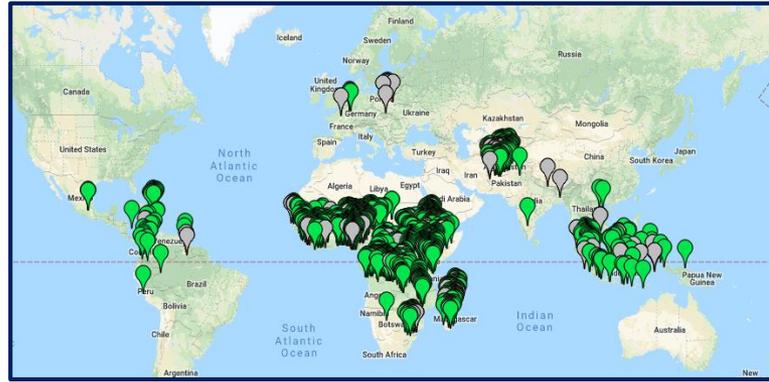


Establishment of Strong R&D Platform



- We have nearly 30 R&D engineers today and are keen to add more. Our R&D engineers have a multi-cultural, multi lingual and multi disciplinary background
- B Medical has more than 100 patents and several products which are the only ones in the world
- We continue our innovation journey with the launch of 60+ new products in the last two years

Vaclog: Our World Wide Remote Monitoring System



Summary of: [355855053450258]/MOH-KE

Date from: 2019-01-03 | Period: 7 days | Date to: 2019-01-10 | Scale: ±2.5°

Date from: 2018-09-12 | Date to: 2019-01-10 | Alarms only

Item count: 2

Local time	Type	Message
2018-10-11 14:53:03	Event	Door closed

TCW40SDD2

Internal temperature: **4.3°**

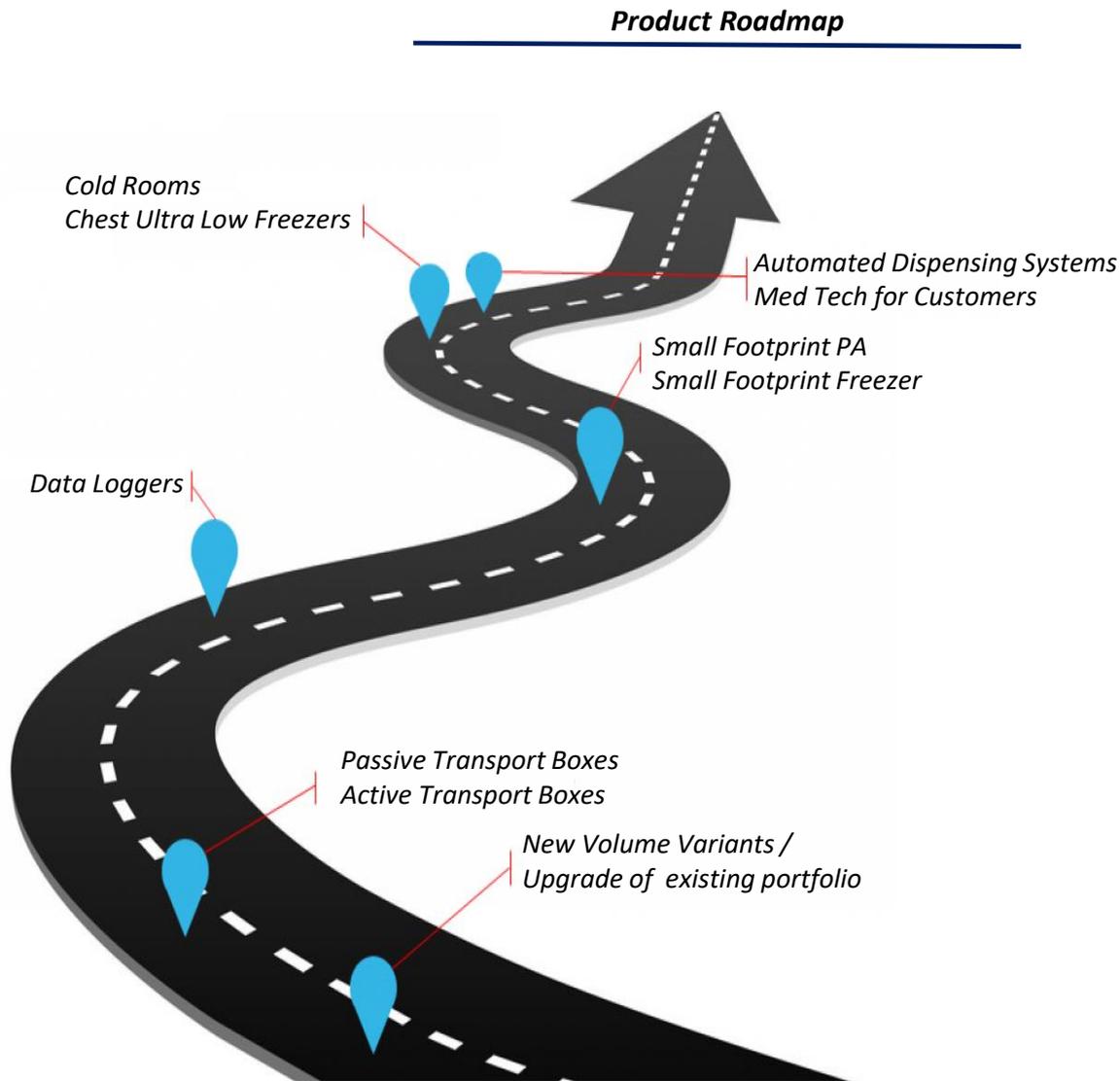
2019-01-10 03:47:55

External temperature: **26.5°**

100%

The interface displays a summary of monitoring data for device [355855053450258]/MOH-KE. It includes a status bar with navigation and refresh icons, a filter section for date and scale, and a log of events. The main area features a device icon (TCW40SDD2), a circular gauge for internal temperature (4.3°), a digital display for external temperature (26.5°), and a battery level indicator (100%). Two line graphs show temperature trends: internal temperature (Temp int.) in blue and external temperature (Temp ext.) in pink, both plotted from 2019-01-03 to 2019-01-10. A map of Kenya shows the device location with a green pin near Maua.

Our future roadmap consists of a number of new innovative products and solutions and we are looking for partnerships in Luxembourg in several areas



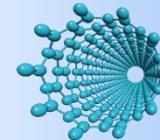
Looking for capabilities in.....



Data Management Capabilities



Internet of Things



Applied Material Science



Robotics



Advanced Cooling Technology



New Manufacturing Procedures

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SHAPING THE FUTURE
TOGETHER Health