medical systems

State-of-the-art Cold Chain solutions

Luc Provost- CEO
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Overview

1. B Medical Systems: a new name with a long experience
2. Fields of expertise
3. Key figures for the Asian region
4. B Medical Systems in the Asian region
5. Relevant solutions for an efficient Cold Chain
1) B Medical Systems: 
- a new name with a long experience
WHO & UNICEF launch EPI

Meeting in London: start of Cold Chain

1974 - 1979

Electrolux acquires Camping freeze

1980 - 1983

First Cold Chain product

1987 - 1992

Launch of RCB 42 P

Launch of Silver Line Medical Systems

Launch Gold Line

1995 - 2000

Acquisition of TUS & Launch MBF

Established as Dometic

Launch of SDD

2001 - 2010

Launch of Green Line

2013 - 2015

MBO with Navis

+ 35 years of experience & expertise in Cold Chain

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B Medical Systems:
- a new name with a long experience

• B Medical Systems has been for many years a pioneer in providing solutions for safe storage & transportation for vaccines around the world with 120 well trained partners worldwide

• Since March 2015:
  – separation from former medical division of Dometic Group through management buy-out with support of Navis Capital Partners → 100% focus on medical cooling
  – Production capacity multiplied by 5 and production to stock to allow quick supply

• September 2015: name change and new identity
2) Fields of expertise
Fields of expertise

- **Leading manufacturer and distributor of cold-chain equipment** for large scale vaccination programs in emerging markets
- **Manufacturer of high end medical refrigerators** for hospitals, clinics, Blood Transfusion Centers, pharmaceutical companies and research centers in developed markets globally
- **RFID technology solution** for MedRef Blood transfusion sector
Fields of expertise

Cold Chain:
Transport and storage solutions for vaccines in developing countries. Program developed in cooperation with UNICEF & WHO.

Blood Chain:
Blood supply in war time. Supplier to all NATO armies

Biomedical Refrigeration:
Special purpose refrigerators and deep freezers, storage and transport concepts for Laboratory, Medicine, Research, Biotechnology and Life Sciences. Certified ISO Medical Device Company

Blood Safety:
For a reliable blood cold chain with the scope of safety of blood transfusions. RFID technology for a complete traceability and identification of RBCCs.
3) Key figures for the Asian region
WHO measles elimination goals in South-East Asia

• Elimination by 2020
• 2014: measles continued to circulate widely in most countries of the South-East Asia Region
• Main cause of continued measles cases:
  – underutilization of measles vaccine
Child mortality in Asian region (1/2)

- Acceleration of average annual rate of reduction in under-five mortality: 4.0% from 2005 to 2013
- Despite gains progress remains insufficient to reach MDG 4
- Need for greater attention to ending preventable child deaths in sub-Saharan Africa and Southern Asia
Child mortality in Asian region (2/2)

- Deaths of children aged under 5 years are increasingly concentrated in these areas
- The percentage in the rest of the world: 32% in 1990 > 18% in 2013

*Source graph: www.who.int*
Immunization (1/2)

• Vaccines:
  – save lives
  – have a long-lasting effect on societies and the environment

• As a preventive intervention, immunization:
  – averts significant future environmental and healthcare costs associated with the diseases prevented
Immunization (2/2)

Source: www.who.int
4) B Medical Systems

in the Asian region
B Medical Systems in Asia

Presence in Asian region: > 30 years

Exclusive business partners: 1 in each country

Complete product offer for Vaccine & Blood

Cooperation with Health authorities

Sustaining our programs with ongoing user training on the ground

Prioritising "Total Cost of Ownership" over initial acquisition cost
B Medical Systems in Asia - demands

• B Medical Systems is convinced that International Agencies should
  – deliver quality rather than quantity
  – step it up incrementally according to budgetary restraints, learning from experiences

• Mission
  – deliver the best possible outcome for stakeholders
  – engaging constantly with all stakeholders to try to get message on programs’ sustainability across
Addressing Vaccination Cold Chain challenges - Case study Vietnam

Situation in Vietnam:

• Significant development of nationwide vaccine cold in
  – 5000 communes, 700 districts and 63 provincial level cold chain facilities
• NEPI (National Expanded Programme on Immunization) streathened
  – 12 free life-saving vaccines (over 25 years)
    • Protected 6,7 m Vietnamese children
    • Prevented death of 42,000 children through diptheria, tetanus, pertussis and polio
  – But only 42% of refrigerators storing vaccines in 2009 were functional (Northern region)
    • Reason: lack of regular maintenance of equipment
**Addressing Vaccination Cold Chain challenges - Case study Vietnam**

Solution: peer-to-peer approach

- **Trainings of**
  - provincial and national managers for equipment management
  - health center staff for reparations
- **Contracting of**
  - private sector providers for maintenance
- **Equipment**
  - 63 provinces were provided with a set of tools and basic spare parts
  - equipment was added and upgraded
Addressing Vaccination Cold Chain challenges
- Case study Vietnam

Result after 3 years:

- responsibility for equipment maintenance was handed back to most local governments, and included once more in their budgets
- some provinces opting to continue using contractors for repairs
- Beginning of cultural shift
  - Recognition of importance of cold chain equipment management
- Project focus
  - Strengthening and educating staff
- Proof of concept
  - EPI project updates included functioning levels of refrigerators as standard practice.
5) Relevant solutions for an efficient Cold Chain

Solar Direct Drive and among the lowest TCO’s on the market

& Worldwide premiere Cold Chain products
Relevant solutions for an efficient Cold Chain
Solar Direct Drive Range

The Solar Direct Drive solution consists of several refrigerators and freezers for vaccines working straight from solar panels without batteries and regulators.

This solution provides a reliable cold chain for vitally important vaccines even in the most remote areas. The Solar Direct Drive solution uses the only energy source that never runs dry: our sun!
Solar Direct Drive Range

COLD CHAIN
Solutions for safe vaccination

Vaccine Refrigerator & Icepack Freezer
- Net vaccine storage capacity
- Ice-pack storage capacity
- Hold Over Time
- Autonomy

TCW/40 SDD
- 36 L
- 8 x 0.6 L
- 93 h 24 at +42°C
- 81 h 54 at +43°C

TCW/2000 SDD
- 99 L
- 16 x 0.6 L
- 92 h at +32°C
- 85 h 24 at +32°C

TCW/2043 SDD
- 70 L
- 16 x 0.6 L
- 79 h at +43°C
- 73 h 54 at +43°C

Icelined Vaccine Refrigerator or Freezer
- Net vaccine storage capacity
- Hold Over Time
- Autonomy

TCW/3000 SDD
- 156 L
- 94 h 05 at +32°C
- 86 h 56 at +32°C

TCW/3043 SDD
- 89 L
- 124 h 48 at +43°C
- 116 h 41 at +43°C

PQS Certified E003/042
PQS Certified E003/035 & E003/043
PQS Certified E003/030 & E003/045
Relevant solutions for an efficient Cold Chain

Solar Direct Drive

2013
• Launch of first BMS Solar Direct Drive Solutions Worldwide

2015
• Over 7’700 units installed worldwide
Worldwide Premiere
launched spring 2016
HEALTH CENTER KIT: YOUR SOLAR ENERGY CENTRE

Solar generators produce mostly more energy than SDD refrigerators consume.

Health Center Kit recognizes the excess of available energy and charges automatically a battery which allows to power essential devices operating on direct current.

- Independent unit made of rotomoulded polyethylene (robust for an intensive and mobile use)
- Power connectors for solar generators – IN/OUT
- Electronic controller with automatic energy management
- Rechargeable battery
- Rechargeable LED lights (2pcs)
- Mobile ceiling fan
- Connection interfaces: 2 USB outputs (5W each) and 1 cigarette lighter socket (20W)
Cold Chain **Logger for remote temperature monitoring**

- Temperature data logger for real time monitoring
- Includes a SIM chip with a 10 years subscription
- Crucial for the quality surveillance of the Cold Chain and monitoring of vaccines
- Pro active alerts for preventive maintenance.
- rechargeable battery
- Worldwide remote monitoring & data access over WEB

- only GSM network coverage is necessary to operate
- Google map positioning using integrated GPS module
- Alarms include temperature deviations and lid openings
- Alarms are sent by text messages or emails
- works on both SDD and AC installations
TCW4000 AC – PQS E003/066

- Large volume icelined refrigerator for vaccines
- Largest rotomoulded ILR in the world
- New cold chain controller
- Automatic drain water evaporation
- Green technology

Performance

- Net vaccine storage capacity: 240 L
- Gross volume: 256 L
- Hold Over time: 77 hours
- Cool down time: 22 hours
- Power consumption
  - Stable running: 0.85 kWh/day / 24 h at +43°C
  - Cool down: 1.24 kWh/day / 24 h at +43°C
TFW3000 AC – PQS E003/071

- large capacity IP freezer
- first rotomoulded IP freezer
- green technology
- low energy consumption
- easy to handle

Performance

- Hold Over time at +43°C: 3.92 hours
- Icepack freezing: 54 x 0.6L /24h at +43°C
- Frozen icepack storage capacity: 162 x 0.6L
TFW40 SDD – PQS E003/073

- first stand alone SDD Icepack freezer for health centers

Performance

- Frozen icepack storage capacity: 66 icepacks
- Icepack freezing capacity: 8 x 0.6L (2.4kg/24h at +43°C)
- Autonomy time: 5 days

PQS Certified E003/068

> Net vaccine storage capacity: 36 L
> Autonomy: +/- 3.5 days
TCW15 SDD – PQS pending

- small capacity health center ILR & IP freezer
- automatic drain water evaporation

Performance

- Net vaccine storage capacity: 16 L
- Icepack storage capacity: 4 x 0.6 L
- Icepack freezing capacity: 4 x 0.6 L
- Autonomy: 84 hours

ALSO AVAILABLE AS REFRIGERATOR ONLY

TCW 15R SDD
MRB 3000 SDD

- FIRST SDD blood bank refrigerator
- new cold chain controller
- Serves for cool down and storage of blood bags

Performance

Blood bag storage capacity: +/- 90 bags (at 500 ml)
Autonomy: +/- 3 days
High alarm and low alarm (visual and acoustic)
This offer is subject to initial installation of the unit by a designed B Medical Systems provider and having activated the Data Logger on installation (GSM network coverage needed). This has no impact on our existing guarantees for photovoltaic modules.
Last but not least...

| TCW 3043 SDD |
| TCW 40 SDD |
| TCW 2043 SDD |
| TCW 4000 AC |
| TCW 3000 AC |
| TCW 2000 AC |
| TCW 3000 SDD |
| TCW 2000 SDD |
| TCW 15R SDD |
State-of-the art solutions
- to ultimately save lives

In a business environment where innovation is the key to improve health conditions in general and ultimatively save lives, a provider of medical solutions has to

• Be a continuous innovator in terms of technical development and use this innovative technology to eliminate human errors
• Invest continuously in research & development
• Implement lean structures
• Embrace change
• Provide complete long term and sustainable solutions
• Aim for the best possible TCO
• BE CAPABLE TO ENSURE SHORT TERM DELIVERIES AND RAPID FULL DEPLOYMENT TO SAVE LIVES WORLDWIDE
State-of-the art solutions - to ultimately save lives

BMS solutions have a significantly high reliability owing to the use of best in class technology

• BMS targets the lowest TCO (total cost of ownership) worldwide

• BMS has a worldwide, extensive global network of factory-trained agents which have the ability to provide
  • Training
  • Installation
  • Service & Maintenance

in the shortest time frame even in the most remote places
State-of-the art solutions
- to ultimately save lives
Thank you for your attention

Q&A

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