

HEMS introduction workshop

Beijing, 30 & 31 August 2016

EU-China Aviation Partnership Project

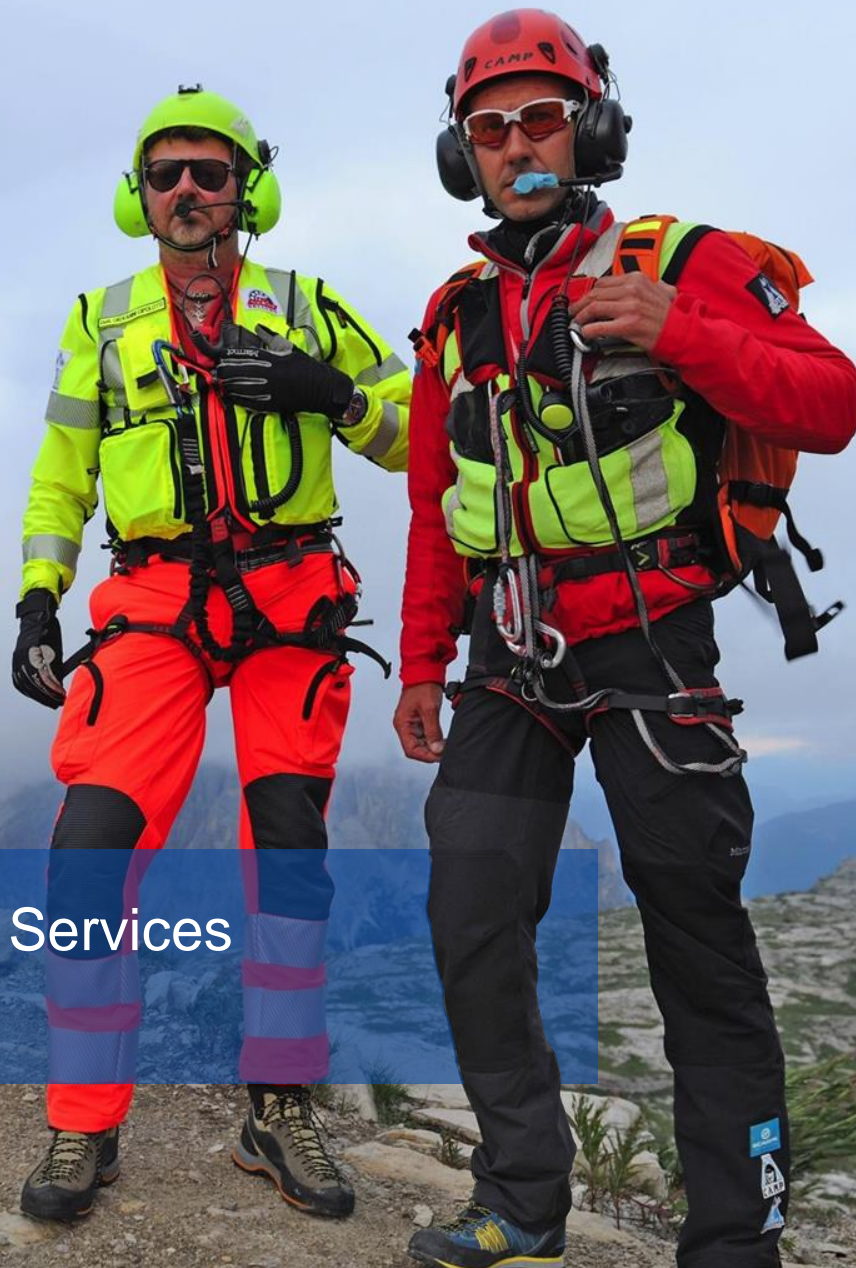


EU-CHINA
中欧民航合作项目 APP





trusted to deliver™



Helicopter Emergency Medical Services Babcock MCS



EU-CHINA
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Babcock International - at a glance

The UK's
leading
engineering
support
services
organisation

Headquartered in
London

Delivering circa
600 services
across
five continents

Employing a
workforce of
over
35,000
skilled
personnel

Annual revenue over
£4.8 billion

FTSE 100
company listed on
London Stock
Exchange

Order book
circa
£20 billion

Established
in **1891**



Babcock MCS next challenges



Safety and the Quality Standards

Safety Analysis doesn't include the **Clinical Aspect**
(patient + operational + environmental)



Loose Equipment

The evolution of **Normative** is slower than the speed of **Technological** evolution



OverCost vs Added Value

Rule-making process
OpCo / Companies must be part in the decision taking



Mission Critical Services

At a Glance

One of the world's top 3 providers
of mission-critical operations

More than
59,370
emergency
medical
missions and
1,400
rescues at
sea or
mountains

Revenue (FY16)
£547
million

6,236
fire fighting
operations in
Spain, Italy,
Portugal and
Australia

Around **3,200**
employees

Over **270** bases in 13
countries and **15**
aeronautical
maintenance centres

Over **51** years' experience
saving lives and protecting the
environment

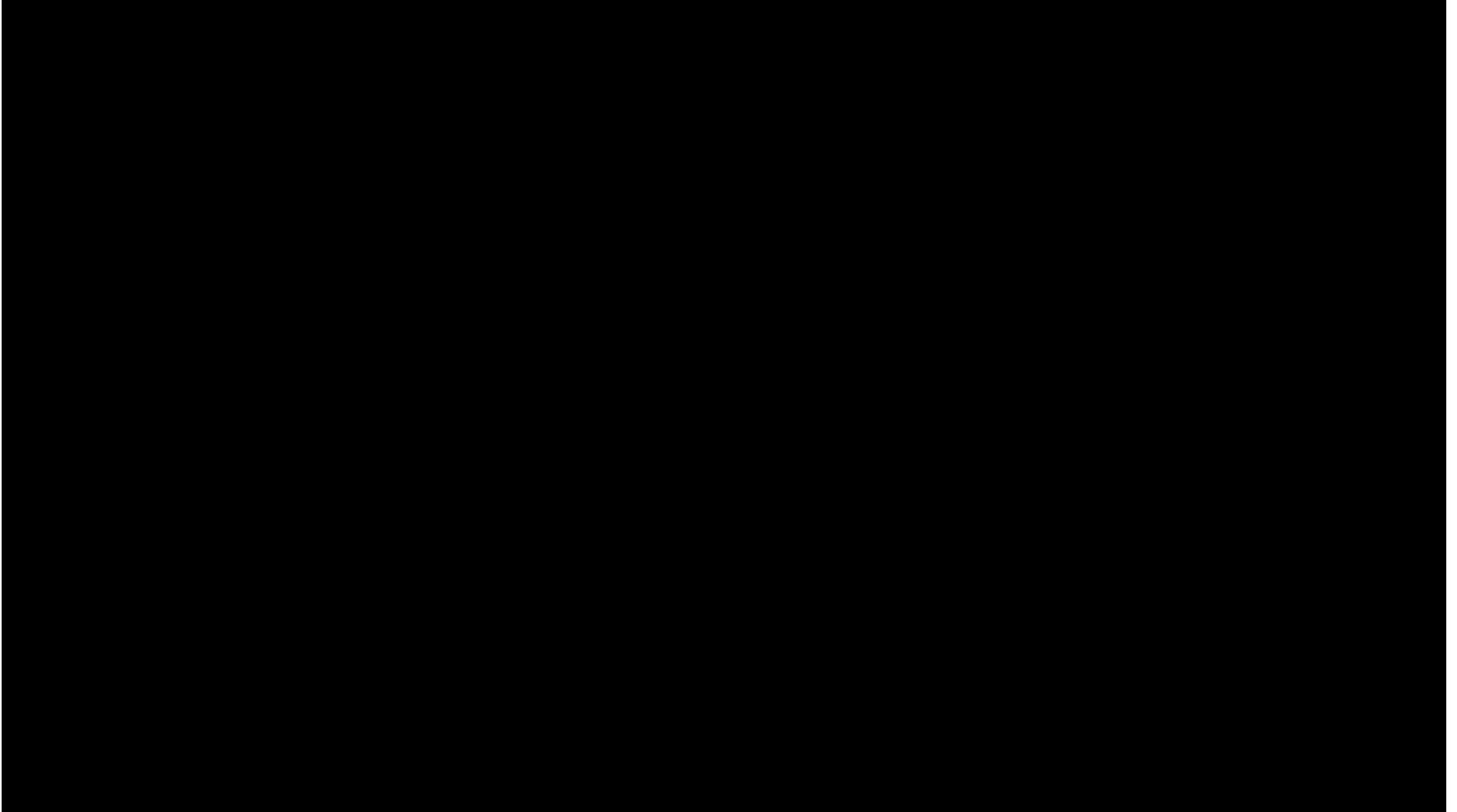
Long-term
relationship with
governments and
blue-chip organizations

Around **209,400** passengers
transported to oil & gas platforms

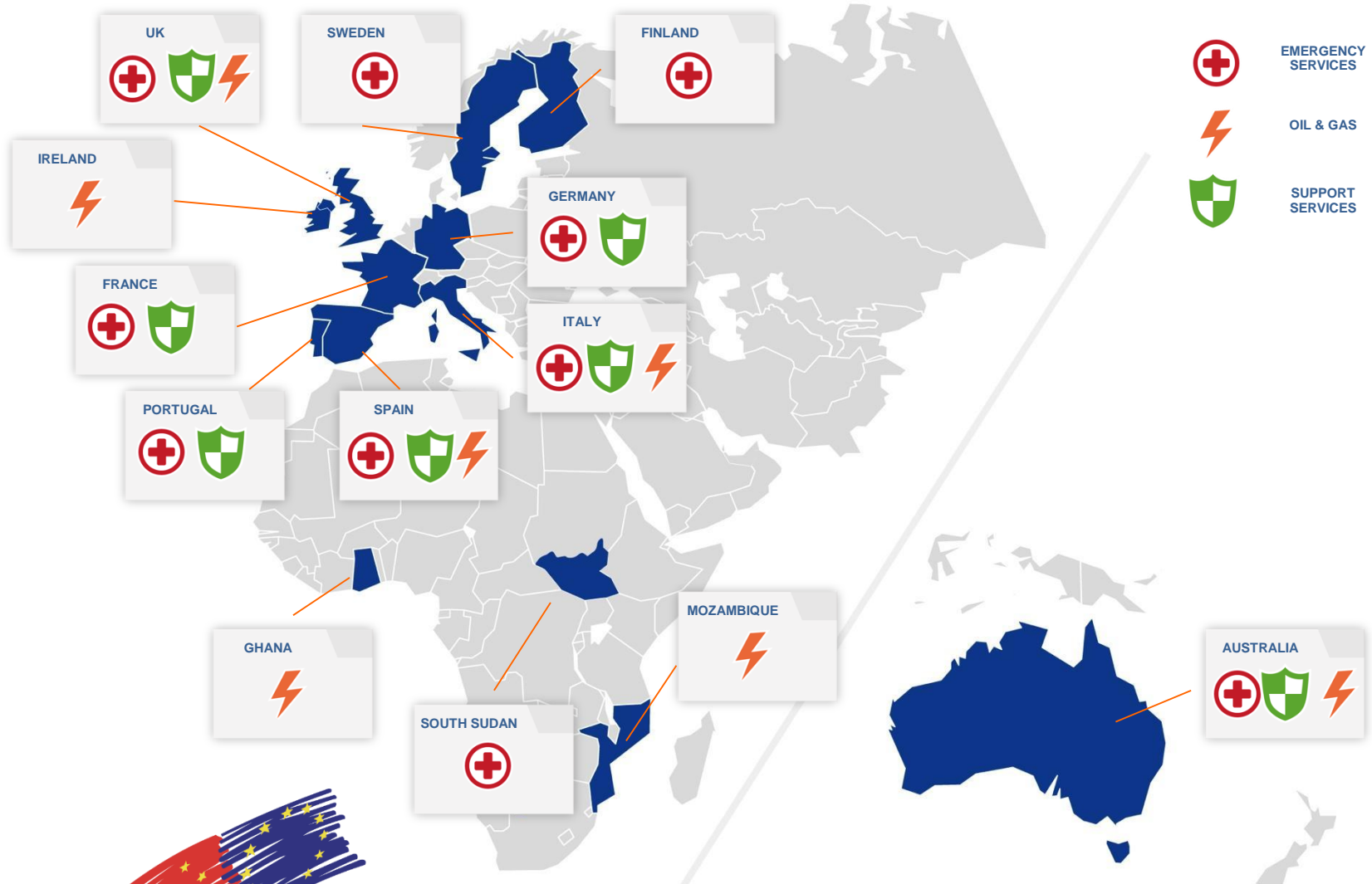
Circa **400 aircraft**
flying over 132,000 hours per year



MCS Video



Providing critical support to customers' operations around the world



Our mission: Saving Lives



HEMS
Operations



HEMS

At a glance

Operations in **Australia, Finland, France, Italy, Portugal, Spain, Sweden and United Kingdom**

+ 140
HEMS
operational
bases



150 HEMS
aircraft
+ 70 different
customers



More than **100,000**
patients transported in
Fixed Wing

More than **1,200** highly
skilled and trained professionals



Experts in **specialised training** for doctors and nurses, including an **HEMS simulator**

Over 40 years
of HEMS
experience

61,470 HEMS
missions in 2015



Why Babcock



**Why
Babcock**

Focused
on
**Quality
& Safety**

Delivering **new
technologies** to
continuously
improve

**Trusted
to
deliver**
complex
and
**critical
services**

**Clinical
Governance**

**Patient
centered
care**

**Resilience,
experience
and
commercial
flexibility**
to exceed
**future
aspirations**





Rotor Wing



Rotor Wing services

At a Glance



World's **leading provider** of aerial emergency medical services

We work **collaboratively** with our customers to deliver **tailored solutions** that meet their immediate and future **needs**

Transporting the **most critically ill** and injured to the most **appropriate hospital**

Delivering **life-saving** capabilities to where they are most needed – fast: **ECMO**, Newborn **Transportation**, Prehospital RBC **Transfusion**

DOA capabilities: **Every detail within every project**



Primary and Secondary Mission



- ✓Where time is the vital difference you need to assist in the **shortest time**.
- ✓**Bring the Care** you need.
- ✓Takes to the hospital that you need



- ✓Taking patients to **higher level centres** to provide **specialized care** ✓
- ✓**Bringing the Best Care** to the patient
- ✓**Adding Value** to the Chain of Surveillance
- ✓More **complexity** in the delivery





Improving our Capabilities



To perform at the highest levels

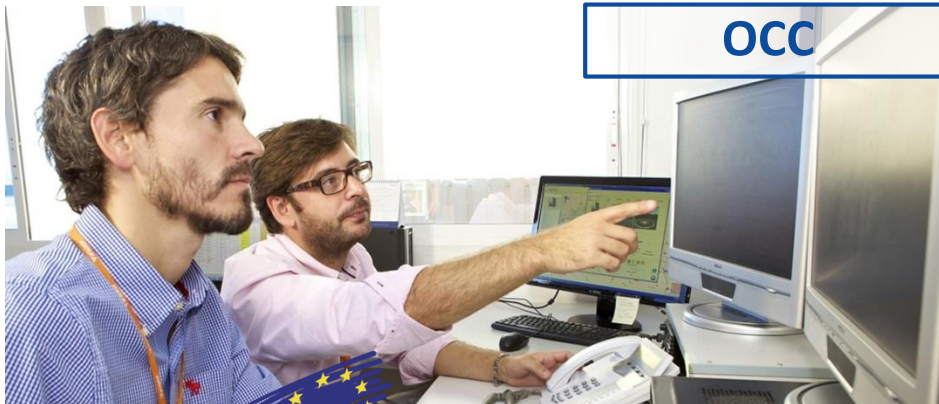


Maintenance

15 OEM-approved **aircraft maintenance centres** across eight countries

Capability to simultaneously work on more than **60 aircraft**

1,200 highly trained engineers and aircraft maintenance technicians carrying out more than **450 inspections** every year



OCC

The **Operations Control Center (OCC)** team centralizes and manages all the company operational information playing a leading role in operational decision making in real time



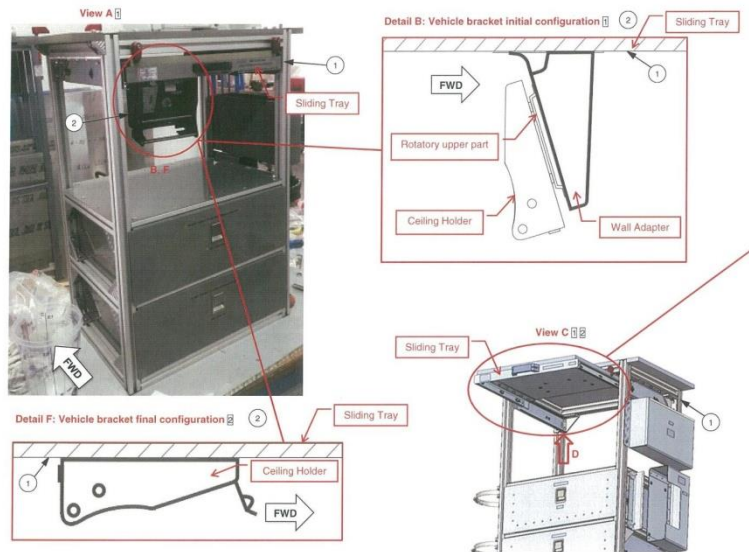
DESIGN AND COMPLETION

At a Glance

Our
own designs
for every
operational
need

We innovate to
leverage the
“state of the
art” on board
in our aircrafts

Design & Completion of medical stowage Every detail within every project



Optimum design with
elevated performance,
achieving easy installation,
lightness and safety

MISERCODE project:
Mission Status + GSM
Communication Software
(STAPH)

3G/4G certification achieved for the NPAS. Use of this project
to provide in EMS: patient report forms, telemetry, ECG
transmission, image capture



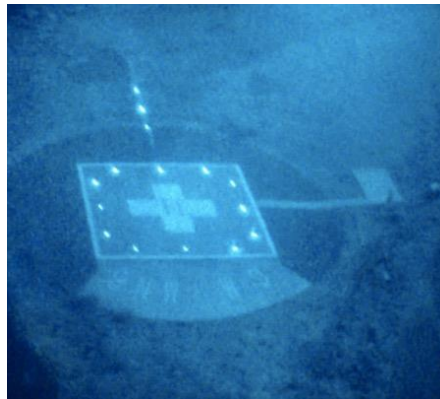
Infrastructure



We develop **helipads**, designed in accordance with ICAO. They are provided with

night beacons

(conventional and infrared lights for night vision goggles), remote start, obstacles signalling, **weather station**, intrusion detectors, speakers and webcams



Critical Vision Technology



Ready to deliver the **best H24 service**, every single day on every weather condition

Flying at night is a part of our daily operation and its performance is updated with the latest technology and most complete training



Infrared and **thermal cameras, night vision goggles, high-intensity searchlights** are tools to deliver the service

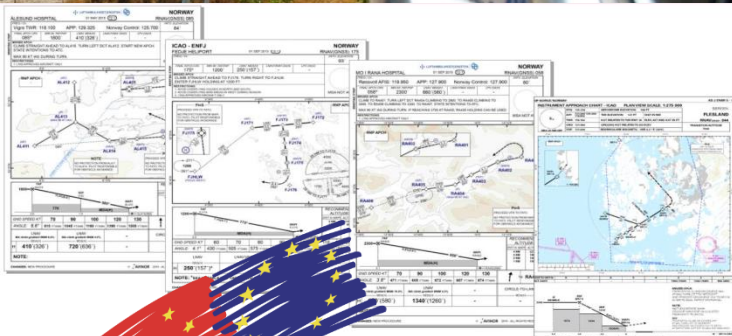


SBAS-EGNOS



Performance-based flight operations are based on the ability to assure **reliable, repeatable** and **predictable flight paths** for improved capacity and efficiency in planned operations

We have **implemented** the technology **PinS Project** within Scandinavian Air Ambulances and we are working on their experience to apply it in other locations and operations





Optimal Medical Capabilities



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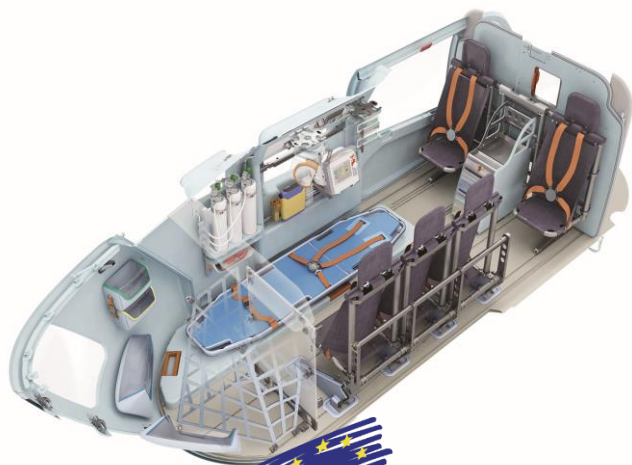
APP

Emergency Medical Kits



Lighting of the cabin,
stowage, medicinal
gases, stretchers
medical equipment

Tailor made kits in order
to provide the **best
service to our
customers**



Top providers of the
sector, under **EASA
certification**: Bucher,
AAT, Lifeport, Spectrum
and MECAER

**Bespoke cabin
configurations**



Electro medical devices



Extensive **hospital-standard on-board** medical systems: electromedical devices, invasive and non-invasive, monitorization, etc.

Customer Driven Innovation

Analyzing **last trends** in Electro Medical Devices

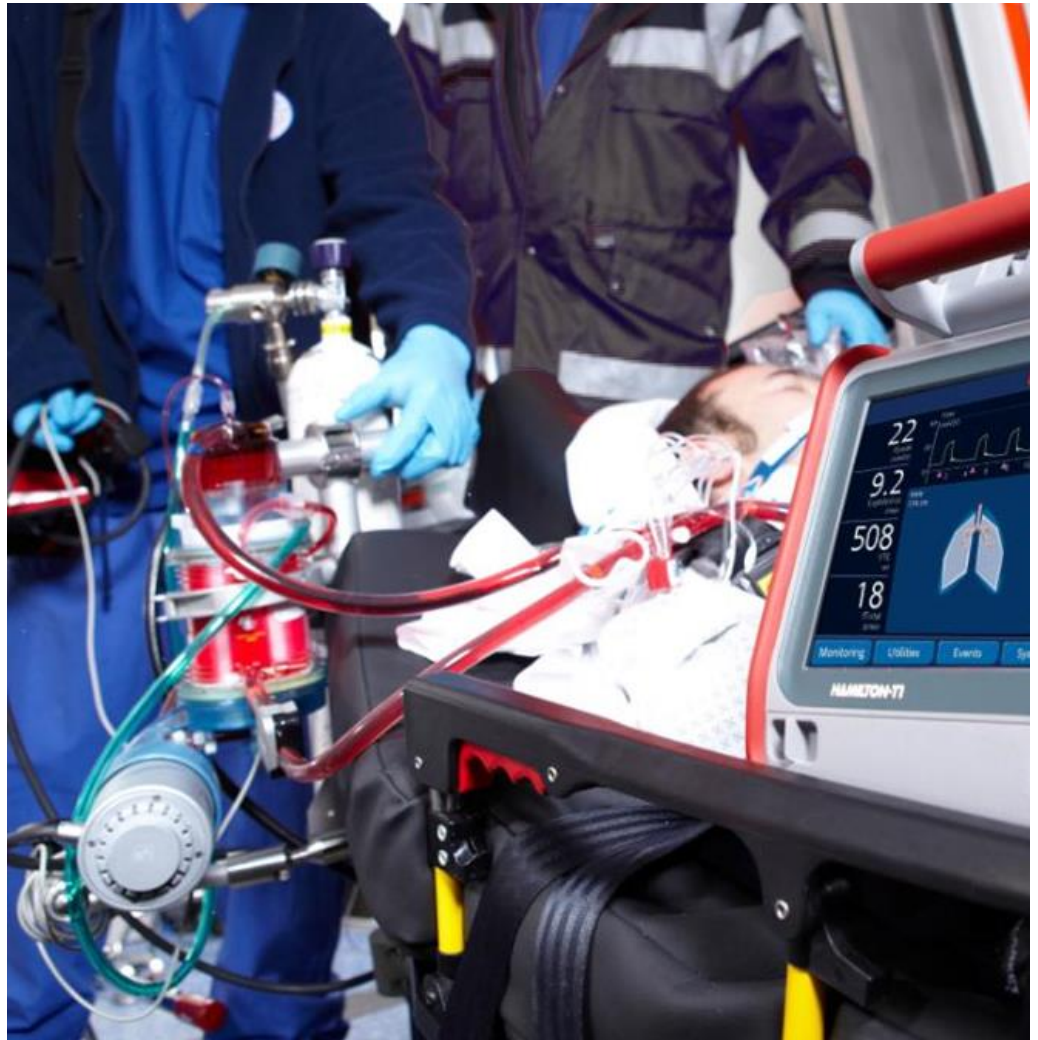


ECMO

Cardiovascular Support to
unresponsiveness Heart
Failure and Respiratory
Insuficiency

Support end organ
perfusion while bridging
to definitive therapy

High complexity **Transport**



Paediatric Transport



Newborn best care
during **transport to**
tertiary referral
hospital

Protocols for the **initial**
care, stabilization of
the newborn and
pediatric **transport**

Optimization of
resources, **anticipating**
the problems that may
arise and **teamwork**



Hoist Operation

**Winch
Operation
capabilities**

**HEMS & Rescue
missions**

**Hazardous
Environment &
Mountain Medicine**



Prehospital plasma and RBC transfusion



Associated with **improved** early **outcomes**

The red cell/blood resuscitation in the helicopter system, creates a **mobile blood bank**

Early treatment of trauma-induced coagulopathy.

Benefits in **damage control resuscitation** extending to 24 hours.

Advanced prehospital **haemodynamic resuscitation** in the severe trauma bleeding patient

Fast treatment and access to **blood products** increases **survival** % in **trauma**



Whole Service Provider





Training



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Highly Specialized Medical Training



Focus:
Best
practice

Scientific
Evidence Based
&
Patient-centered
care

Expertise
based and
University
supported
program

Different profiles,
one common
objective:
Clinical
excellence



University HEMS Degree



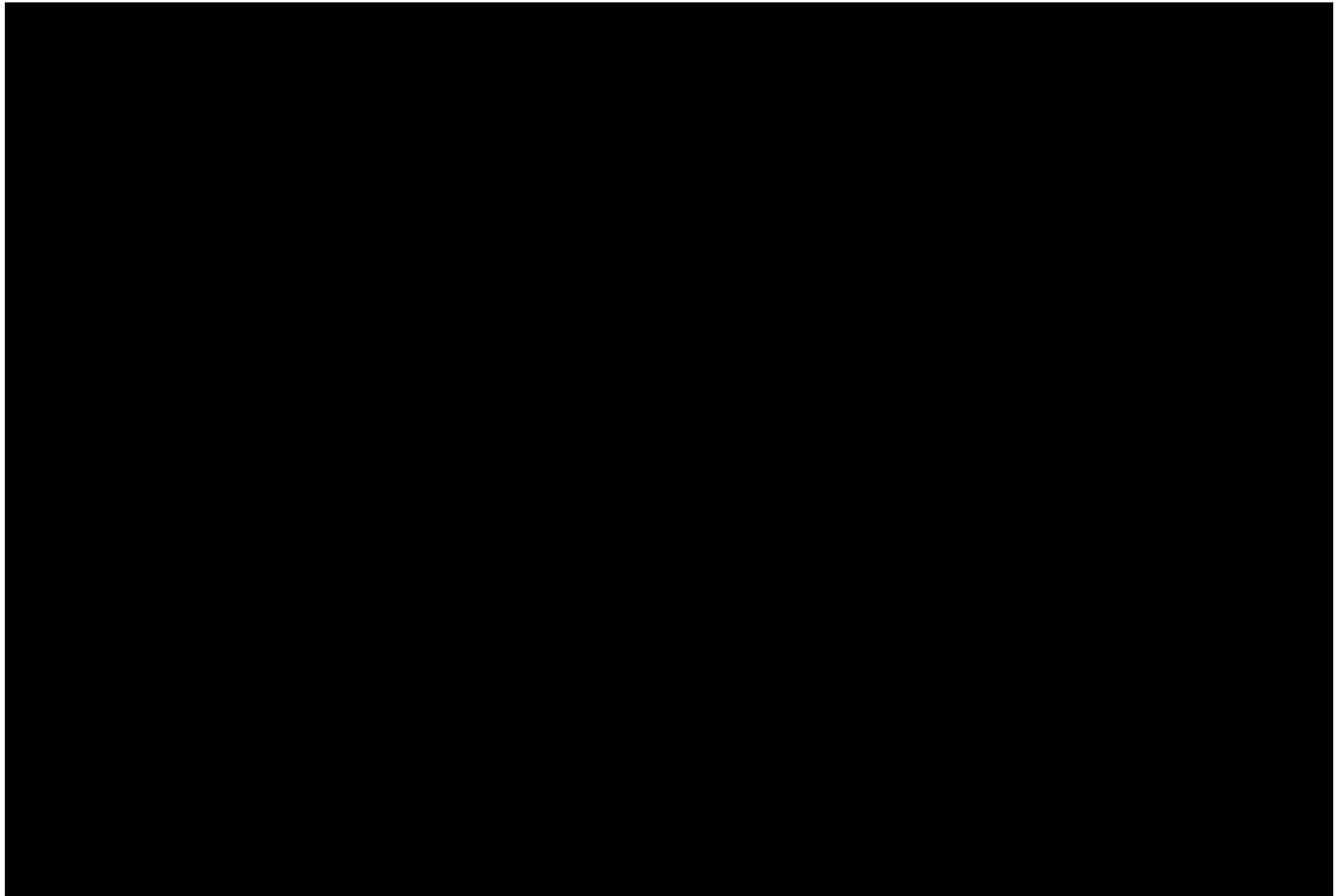
10+ years experience
30 ECTS Credits

International Spirit
Professional Profile

Qualified
Teaching Staff
with more than
12,000 HEMS mission
flown in total



Training Video



Clinical Scope of Practice BMCS Levels



Professional proficiency
Levels 1 to 5

From **EMT-B** to
Highly Specialized
Physician-staffed service

Common approach to **widely**
polyvalent
operation and missions

Standardized training
and **medical crew**
safety warrant



BMCS HEMS training program



HEMS training program

Level based

ACLS ATLS PALS PTLs

High minimum standards

paediatric & newborn transport

In flight medical emergencies

Ambitious clinical proficiency

invasive techniques & ACRM

Mass casualty & HEMS **top**

expertise Ph-Staffed EM

ultrasonography & blood
transfusion

ECMO IABP VAD

Highly specialized training

Hazardous environment &
rescue



EMS Medical Simulation



2 medical crew & patient

Bell 412 cabin

Real **medical equipment**
defibrillator / mechanical
ventilator

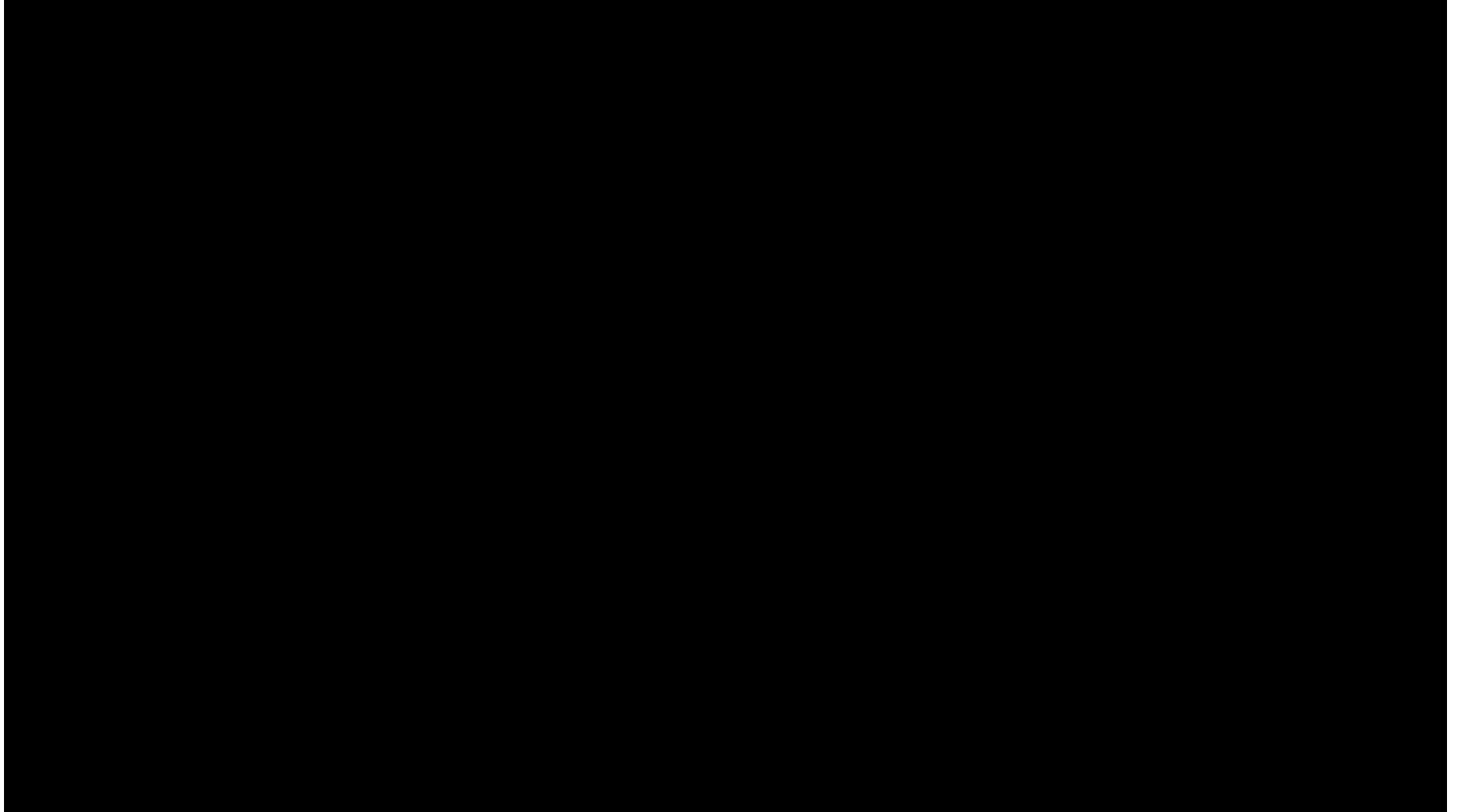
Realistic communication
and environment

Designed to fully train
clinical & non technical
capabilities

CRM & team building



Training Video



Future of Air Medicine

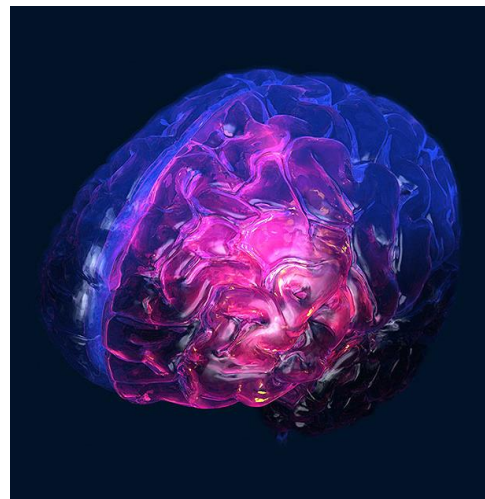


Out-of-hospital
mechanical &
chemical
thrombolysis

Ultrasonography to
assess and resolve
stroke fast and safe

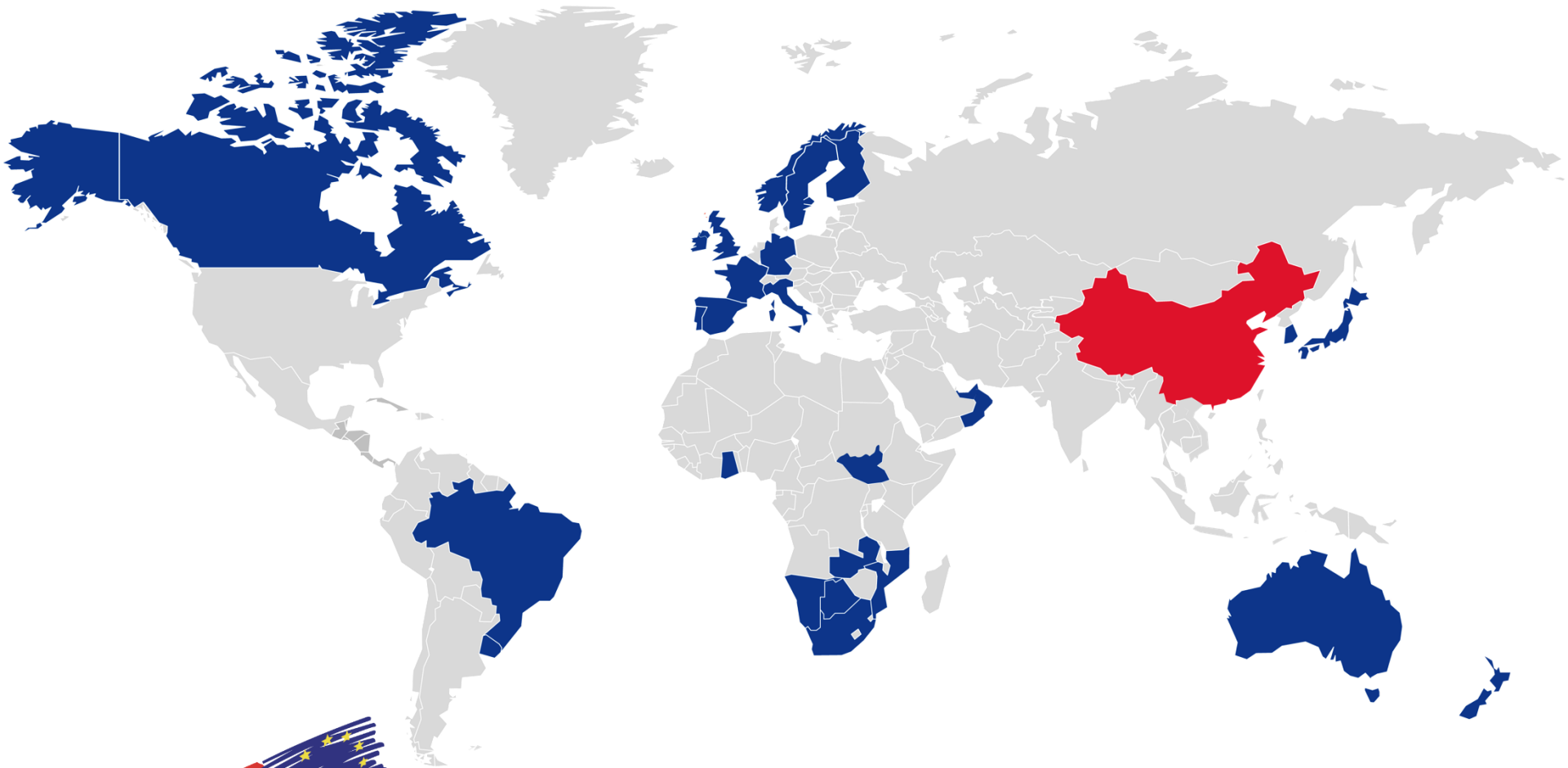


Extensive
severe trauma
damage control
devices such as
REBOA



Babcock

will begin to start delivering/supporting Mission Critical Services in China



EU-CHINA
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Babcock MCS next challenges



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MCS Objectives in China



Support World Class **HEMS Development**

Be considered as a **robust** experienced **provider** by Local Authorities



Secure, Safe, Professional and Fast-Response Mission

Main Challenges to face is to **create a HEMS Culture:**



Serve population and **Save lives**

Have an **Adequate and Agile Regulation**



Highly experienced professionals at of the service of population



Remember

**To pilot a Helicopter in HEMS Operations is different than
Passengers Transportation**

**Taking care of a patient in a Helicopter is different than in a
Hospital Room**



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Thank you

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