

# Secure and Connected New-Age Monitoring Devices

QuEST Global - Monitoring Devices Expertise







Monitoring devices industry is growing at an unprecedented pace with the R&D investments poised to touch \$3.5 BN by 2021. Such rapid growth and rising demand for remote patient monitoring are driving the big need for a secured and connected care ecosystem. However, making the monitoring devices interoperable and securing them against the persistent hackers are major challenges. Additionally, regulatory hurdles are resulting in slower pace of innovation, increased development cost and longer time-to-market.

Secure and Connected New-Age Monitoring Devices

QuEST enables monitoring device OEMs to engineer holistic products that are fully interoperable, secure and compliant with changing regulations.

#### QuEST has demonstrated expertise in the following areas:

Regulatory & compliance Interoperability platform Connectivity for monitoring devices services support Global regulatory & compliance services Compliance support End-to-end product development Embedded services Device driver development Sensor integration Signal processing Integration/Interoperability services Platform integration services • Device standardisation • Integration testing • Cloudification services Cloud enablement and deployment Cloud application services Cloud management services Software application development Mobile application development • End-to-end software development • Feature enhancement & debugging • Test automation frameworks Functional & non-functional testing services Test case preparation Test architecture design Services UI/UX services

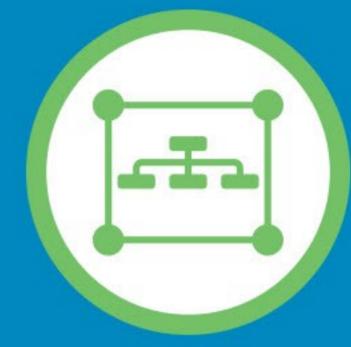
The platform integrates Monitoring Devices with patient record systems, such as Personal Health Devices (PHDs), Hospital Information Systems (HIS) & Electronic Medical Records (EMRs). It provides an interface to analyze data to offer personalized healthcare and consultation services.

Interoperability
Platform for
Monitoring
Devices

#### Key Features:



Standards framework - ISO/IEEE 11073 devices



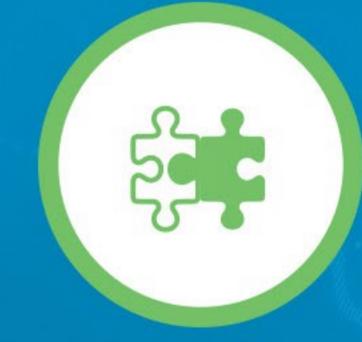
Frameworks that support connectivity and telemedicine



IEC 80001-1 compliant



Analytics platform for user base including personal, social and enterprise usage



Supports integration with servers, cloud applications, drivers and other software applications



System integration eco-system

- Data from wearables and home-care devices to PHDs
- Data from monitoring and remote patient monitoring devices to EMRs
- EMRs & PHDs with HIS



Demonstrable proof of concept for home-care devices and wearables

#### Business Need:

New product development for emerging markets



Deliver right features, such as touch-enabled UI



Remote monitoring of parameters from nursing station

3

Ensure faster time-to-market and reduce the cost of ownership



Case Study:

Connectivity

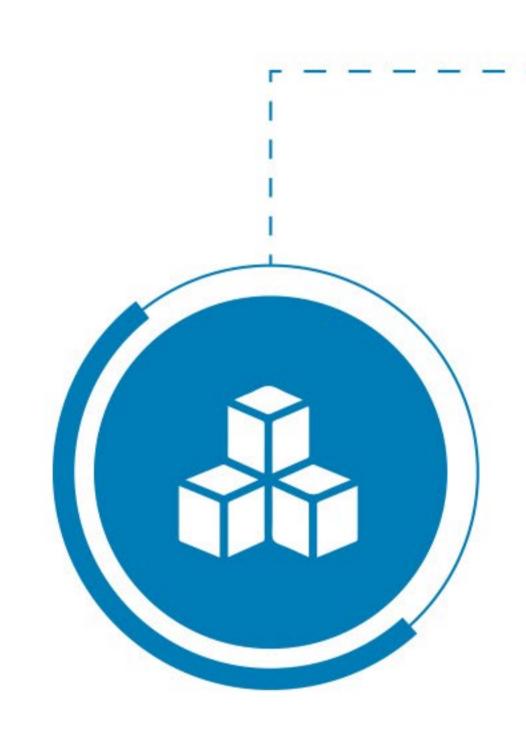
of an Infant

Monitoring

Incubator

Improved

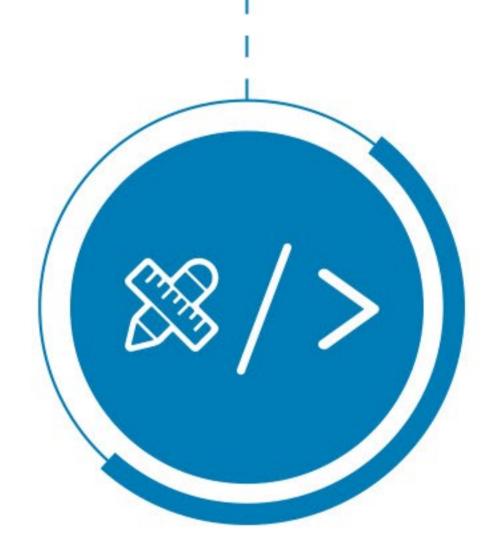
### QuEST Scope:



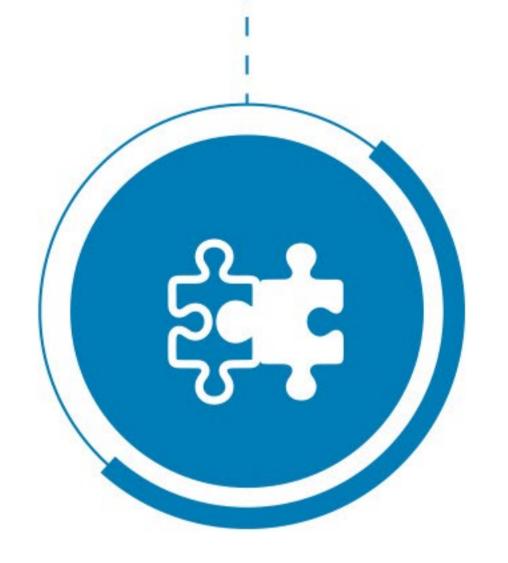
HW & SW platform selection



Evaluation of sensors
that measure air
temperature, baby
temperature, humidity,
oxygen levels
and weight



UI & applications development for display of live data, alarms and trends



HW and SW integration testing

## Benefits

01

Significant reduction in time-to-market

02

Robust design for demanding environments

03

Improved serviceability by modularization of embedded components

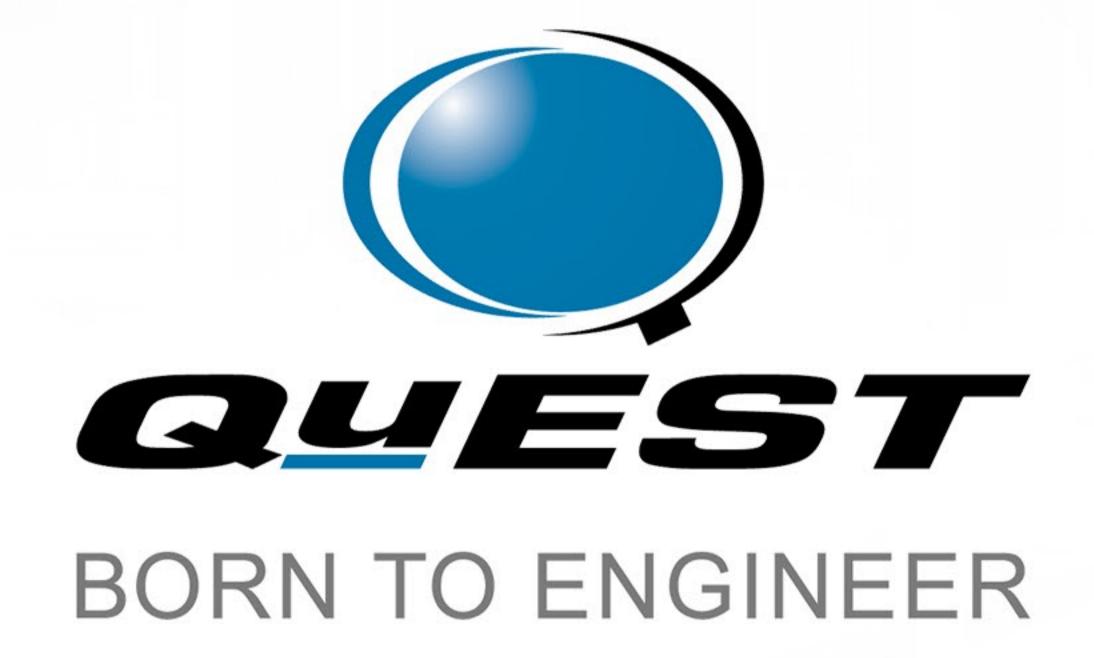
04

Increased
connectivity
(reduced numbers of
nurses in nursing
station through
remote monitoring)

Industry Recognition Gold Partner of GE Zinnov Zones: Recognized as an industry leader among the Global R&D Service Providers within Medical Devices for 2017 Engineered over 10 product categories including ECG and fetal monitoring Strong expertise in implementing interoperability and cybersecurity Proprietary interoperability platform for monitoring devices Strong experience in new product development for emerging markets Certifications and standards – • IHE, HL7, FIPS, HIPAA Data Protection Directive (95/46/EC) • IEC 60601-1 • ISO 14971 • IEEE 11073 Global talent across 42 offices in 12 countries QuEST Differentiators

### About QuEST Global

QuEST Global is a focused global engineering solutions provider with a proven track record of 20 years serving the product development & production engineering needs of high technology companies in the Aero Engines, Aerospace & Defence, Hi-Tech & Industrial, Medical Devices, Oil & Gas, Power, and Transportation industries. The company offers mechanical, electrical, electronics, embedded, engineering software, engineering analytics, manufacturing engineering and supply chain transformative solutions across the complete engineering lifecycle.



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