SMART HEALTHCARE

Voice, Vision, AI, IoT – System Solutions

Arcturus
We are Edge.
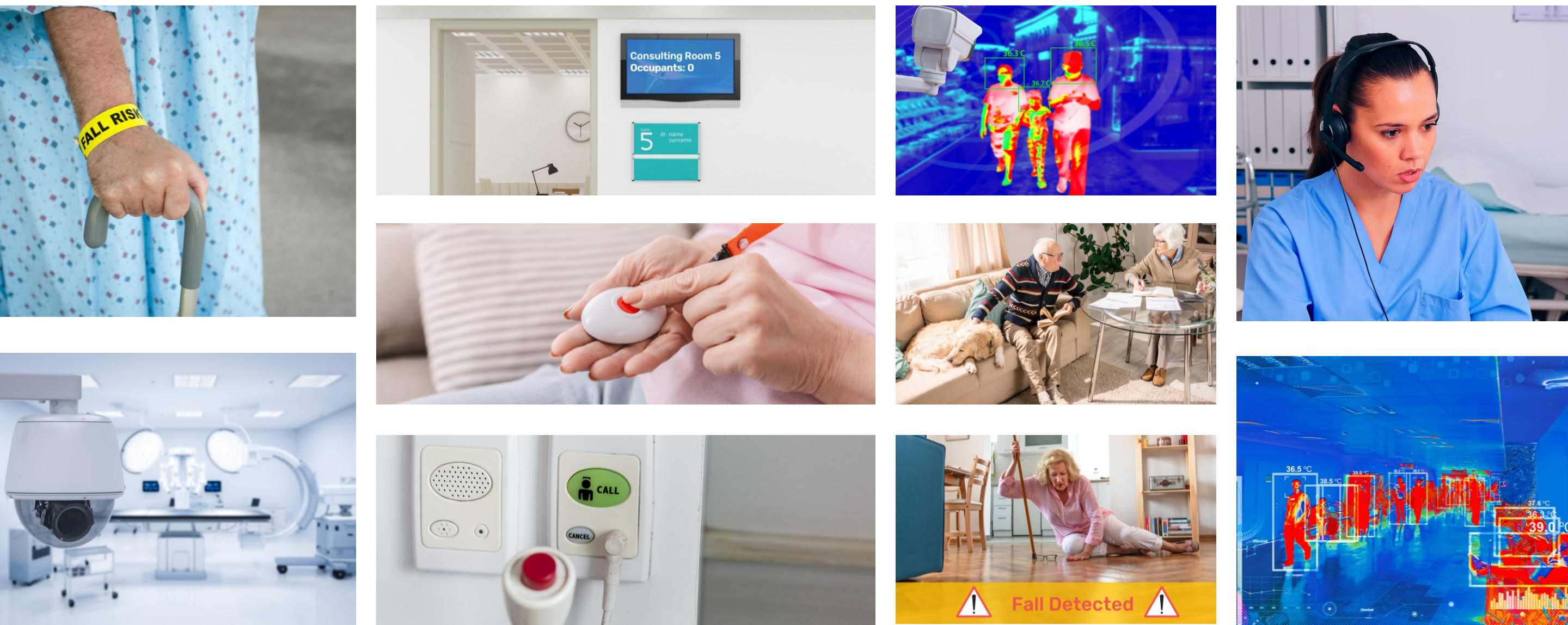
OVERVIEW

Arcturus has been developing edge and embedded systems for over 20 years and during this time has amassed a broad portfolio of hardware, software, tools and expertise. System solutions provide access to our core skills and capabilities to accelerate your product development.

Engagements are individually structured and tailored to the needs of each project with dedicated engineering resources that work directly with you to identify requirements, execute on project deliverables and ensure a smooth process from development to deployment. Projects typically consist of a mix of hardware, software, services and support, with simple engagement packages to help get development moving quickly.

KEY RELATED TECHNOLOGIES

Arcturus is focused on five areas of excellence; real-time systems, security, connectivity, communications and machine learning. We offer three product lines that encompass these areas:

- SIPxtream™ – Hardened Voice and Video Communications

- Mbarx™ – Secure IoT Endpoints, Tools and Gateways

- Brinq™ – Edge AI and Vision Analytics

Each product line offers enablement solutions, turn-key applications and specialized hardware. Our system solutions program allows us to work directly with you to combine access to products and customize solutions to address your specific application needs.

APPLICATIONS

- ✔ Patient care monitoring
- ✔ Nurse call systems
- ✔ Patient care communications
- ✔ Occupancy sensing
- ✔ Fall risk monitoring
- ✔ Fall detection
- ✔ Wandering and patient tracking
- ✔ In-home and residential care communications
- ✔ Independent living wellness monitoring
- ✔ Violent or abnormal behaviour detection
- ✔ Activity tracking
- ✔ Action journaling
- ✔ Telesitting
- ✔ Care visit logging

Patient Care or Assisted Living
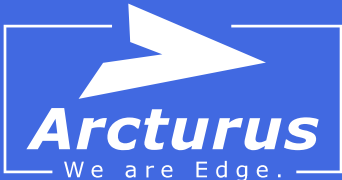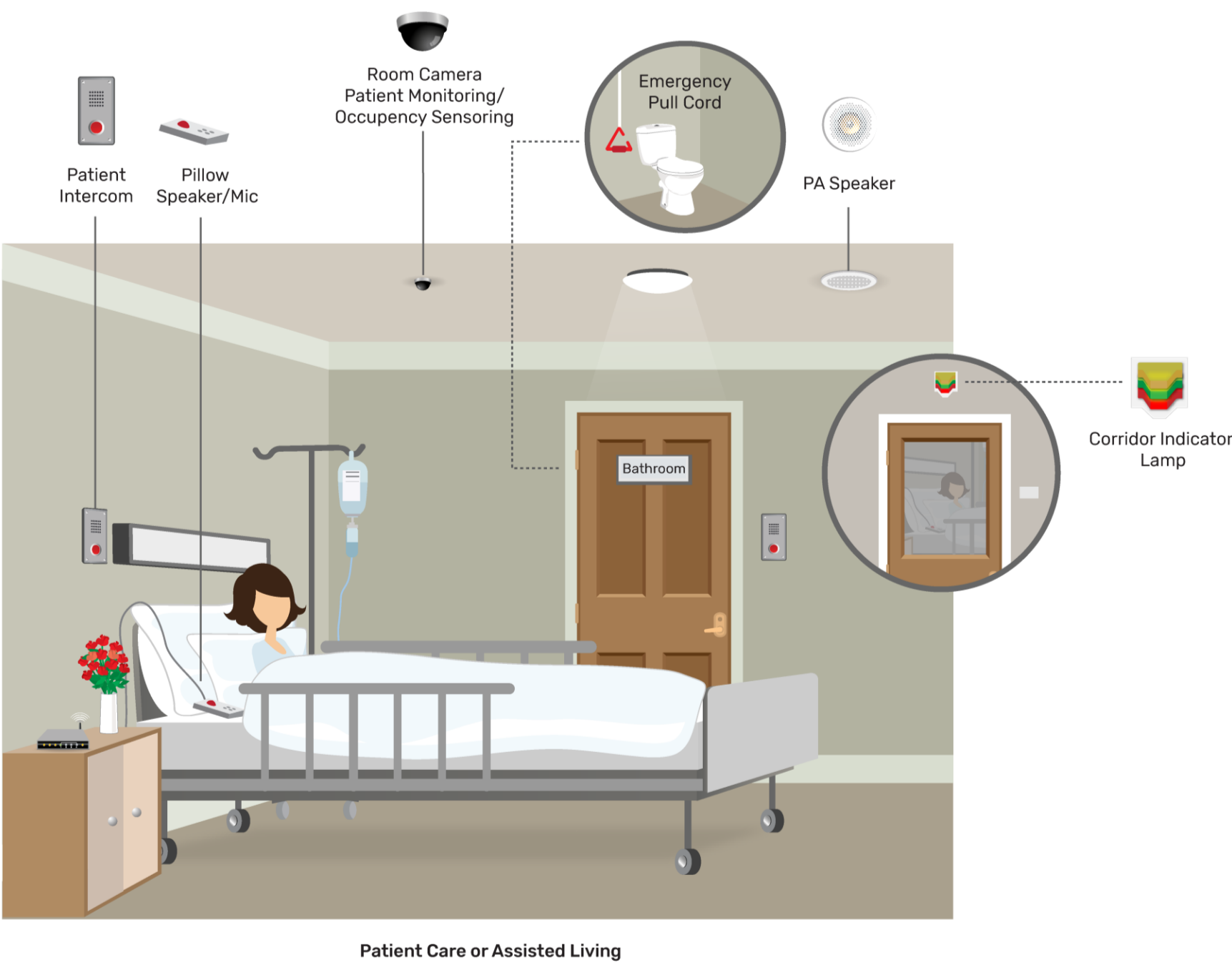
SMART HEALTHCARE SYSTEMS

We believe Smart Healthcare systems should bridge the gap between provider and patient by creating efficiencies that translate into better care, improved outcomes and earlier interventions. Our products improve facility operations, generate valuable insights and enable mission critical communications with patients no matter when they are – here's how we do it.

System Integration by Mbarx

Central to any connected product is the need to manage it, update it and gain insights into its performance. Mbarx Secure IoT provides a secure end-to-end solution for management, telemetry and OTA firmware updates. In addition, Mbarx offers tools and reference implementations for installers or IT personnel to help them easily visualize their systems, connect, control, update and manage.

Tools and endpoints work together with Mbarx Site Controller gateways to form an ecosystem of connectivity, making it possible to manage endpoints at remote sites anywhere, anytime, even if they are located securely behind firewalls.

The Operations Controller gateway stack supports real-time Operation Technology (OT) workflow. It bridges the gap between automation and human control by providing a real-time, back-end telemetry interface into endpoints and supervising their workflow. Front-end presentation using web services allows for event monitoring, control and interaction with endpoints, including event notifications via SMS, VoIP or push. This makes Operation Controllers ideal for environments where users need to act and respond to events generated by devices, sensors, or actions – such as a nurse call and patent care systems.

Tools, gateways and endpoints operate independent of cloud connectivity to ensure security and privacy by using an end-to-end trust chain architecture. Tools can be OEM branded as part of a system solution engagement, providing a unified experience for your customer.

DOCTOR PRESENT 08:40
NURSE PRESENT 08:43

Edge AI, Vision and ML by Brinq

Brinq Edge AI and Vision Analytics for Smart Healthcare enables intelligence at the edge by providing real-time insights. It is suitable for monitoring, tracking, activity analysis and action journaling including:

- Occupancy detection
- Tracking and reidentification
- Clothing type/colour characterization
- Physical distancing / proximity
- Action recognition
- Behaviour detection
- Body pose estimation and fall risk
- Emotion detection
- Smart crowd flow and proximity

Arcturus has 2D, 3D and depth sense vision, ML, and data science experts in-house that develop custom analytics, datasets, train and optimize models or develop specialized use cases.

Communications by SIPxtream

SIPxtream delivers a range of voice and video services for applications that demand mission critical communications. SIPxtream can support RTOS/MCUs in a low as 20KBytes of SRAM or scale to sophisticated multichannel, multi-mode secure voice and video systems using Linux. Central to SIPxtream are:

- High quality voice communications
- Intercom, PA and specialized PTT or handset modes
- Camera integration
- Multimode video (streaming or webservice)
- VoIP and PA, unicast and multicast voice / video transmission
- Recorded announcements for notification
- Intelligibility enhancements and advanced audio algorithms
- Resilience, redundancy, failover, degraded operating modes
- Self-test functions and quality analytics
- Secure and encrypted communications

We have experts in house capable of adapting signalling, implementing codecs, interop testing and supporting specialized requirements.

Care Communications

High-quality voice communications evolved from a need to provide fast/efficient response and a recognition that patient trust comes from knowing help is available 24/7. No matter institution or in-home care; intercom or wearable, Arcturus can deliver voice communications that meet or exceed NEMA and NFPA audio intelligibility recommendations for voice systems with options for camera, video and surveillance analytics.

Institutional Operations

Improving efficiency leads to a better use of resources. Edge applications that determine room occupancy, log staff or visitors, and even track patients can help reduce the workload on personnel to improve operations. Arcturus video analytics provide an anonymized and private way to detect, distinguish personnel, track and characterize.

Safety in Care

Preventing injuries while under care requires constant vigilance. Early identification of high-risk behaviour is critical to intervention, before it leads to an incident. Arcturus analytics for patient telesitting, fall risk monitoring and behaviour detection help monitor patients while freeing up valuable resources.

ARCTURUS HARDWARE

Whether you want to design your own chip-down solution or leverage our boards and modules to accelerate time-to-market, Arcturus offers hardware, design services and support to help. We have hundreds of thousands of devices in service and we leverage this expertise to help you.

- Quality - Field failure rates as low as 0.1% / 10,000 units

- Longevity - Product life-cycles in excess of 20+ years

- Time-to-Market - Boards and modules ready to integrate

- Reduced Risk - Hardware and software expertise, support

- Lower Cost of Ownership - Software ready for deployment, reduces development cost

Arcturus Networks Inc.

701 Evans Ave. – Suite 300
Toronto, ON
M9C 1A3
CANADA

Toll Free North America: 1.866.733.8647
Tel: +1 416.621.0125

https://ArcturusNetworks.com

arcsales@arcturusnetworks.com

Arcturus
We are Edge.