Connectivity and communications for senior living

Alcatel-Lucent Enterprise delivers flexible, secure and resilient technology and solutions for connected nursing homes and assisted living centres.

The world's population is aging. Many countries are experiencing a rise in the number and proportion of older persons in their population. In fact, the number of aging people who need support for daily living activities in developing countries is forecast to quadruple by 2050[1].

However, caring for an aging population is not the same as providing healthcare, which means we need to look at aged care from a different perspective. It's about keeping the elderly comfortable and safe, and as healthy as possible, for as long as possible. That means building a system from the ground up; rethinking long-term care from a basic safety net for the most vulnerable, to a broader system that maximises seniors' functional ability and enables their autonomy and dignity.

Anti-aging technologies, from memory-enhancing drugs, to high-tech joint replacements and healthier lifestyles, are not merely increasing longevity but they are also making old age healthier.

In terms of aged care and assisted living environment, two key areas along the resident care pathway need to be addressed:

- Enabling a better resident experience, so they can feel as good as possible; and maximising their well being
- Equipping staff with collaboration and mobility tools to deliver cost-efficient and quality care

The aged care provider is entering a new realm of hyper-connectivity that enables residents to have the same technology experience they would have at home, coupled with professional medical and aged care.

A connected aged care facility relies on connectivity, digitalisation, and real-time communications and collaboration. Tackling these challenges requires three key areas of consideration, including:

- **Improving security, efficiency and openness**
- **Redefining care delivery**
- **Enhancing the resident experience**

ALE is here to help

Alcatel-Lucent Enterprise provides the technology building blocks to connect the resident and the care facility organisation, services and ecosystem. Those building blocks include the network and communications infrastructures, value-added applications and professional services.

1 - 10 facts on ageing and health, World Health Organization, May 2017.

Solution sheet
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Improving security, efficiency and openness

The communications system is vital for smooth, secure aged care facility operation. To meet these requirements, Alcatel-Lucent Enterprise delivers a:

- Robust voice architecture ensuring business continuity with:
  - Centralised highly available voice system for large groups of multiple aged care facilities
  - Small resilient voice system solution dedicated to a single aged care facility

- Future-proofed, evolving communications platform providing investment protection and smooth transition to new business models

- Cloud collaboration platform, compliant with General Data Protection Regulation (GDPR) and many other regulations, such as ISO 27001, HDS and HIPAA

Flexible cloud models help IT teams by offering a wide-range of private, public and hybrid communications solutions providing innovative and new services with lower upfront costs.

ALE's **Connecting Everything** enhances aged care facilities' openness with:

- Voice and video communications integrated into the nursing home's business applications or systems
- Automated IoT connectivity and security
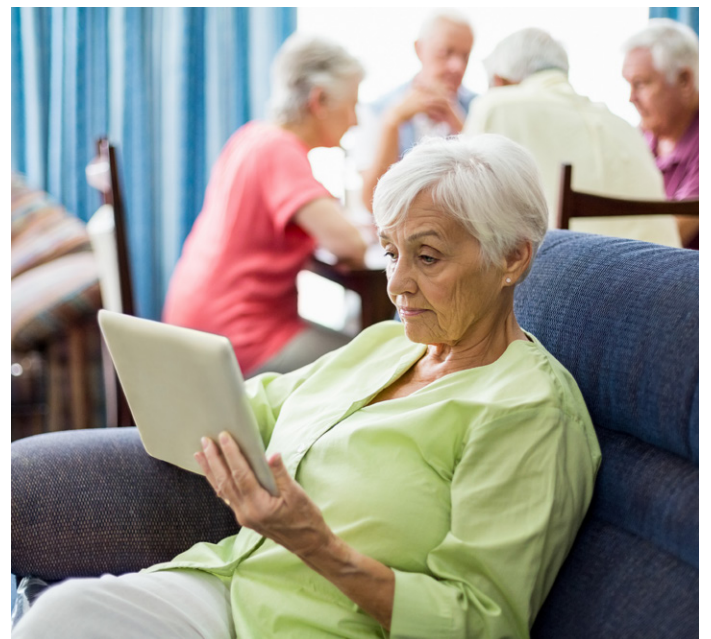
Opportunities

- Innovative digital services
- Resident safety and security
- Global process efficiency
- Attractiveness

Challenges

- Simplicity
- Resiliency
- Cybersecurity
- Cost-efficiency

Solution sheet
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18%
Time walking

20-40%
Time on DMR

14%
Time searching

Redefining care delivery to simplify caregivers' lives

Caregivers work in an environment that is inherently very stressful. Certain problems related to organisation and work tools can have a direct impact on their health and the quality of care they provide, including:

- **Walking time:** 1 to 1.5 hours per day on average
- **Searching time:** 1 hour per day, on average, looking for equipment, not to mention the time spent looking for people (residents or colleagues)
- **Alarm fatigue:** Related to the increased number of notifications when 70-90% of alarms are false or irrelevant
- **Physical security:** 20%, on average, of caregivers surveyed reported having been physically assaulted

In order to relieve caregivers of work overload and mitigate the risk of burn-out (in some cases up to 30% of staff) or resignation, it is essential for aged care institutions to create efficiencies. Digital technology can help improve workflows so caregivers are able to spend more time with residents to provide quality care and take care of themselves as well.

Easy team collaboration

Rainbow™ by Alcatel-Lucent Enterprise collaboration services offer rich communications features (contact management, presence, chat, audio/video, screen and file sharing) to stay connected and collaborate instantly with teams on-site and remotely.

At the nurses' station, during the morning shift, Rainbow enables the head nurse to listen to the recording of the night shift report.

Secure alarm processes and workflows

When using a third party notification server, you may have the ability to connect and monitor alarms from a large range of devices and systems to streamline the flow of caregiver alarms notifications.

When two alarms sound, the nurse can acknowledge the more urgent alarm on their DECT handset or smartphone and intervene in a timely fashion.

Efficient mobile communications

ALE offers a wide range of mobile solutions to provide an essential foundation for healthcare worker mobility and security, including:

- A high-performance Wi-Fi/DECT infrastructure for indoor and outdoor coverage
- A ruggedised DECT/WLAN handset or softphone on third-party smartphone, all connected to a resilient and redundant communication server

With real-time communications, a nurse can call an available specialist for immediate diagnosis and rapid action.

Real-time geo-location of people and assets

Alcatel-Lucent OmniAccess® Stellar Asset Tracking helps staff save time when searching for medical equipment or people, such as wandering residents or other staff members.

A nurse can use the mobile app to easily locate a wheelchair.

Solution sheet
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Enhancing residents' well-being and safety

Alcatel-Lucent Enterprise offers a rich set of advanced digital solutions to create age-friendly environments where safety and comfort are a priority, along with social interaction and access to services.


Intuitive video telephony solutions

- Video calls to maintain proximity and contact with family and relatives; of the utmost importance during difficult moments and periods of isolation
- Available in the resident rooms or in specially-equipped video rooms

Telephony services

- Keep a link with family, friends, helpers and other residents based on the communications system capabilities and associated welcome solution
- Automate the most repetitive and resource-intensive tasks with an intuitive and economical interactive voice server, integrating voice synthesis and automatic speech recognition services
- Manage HVAC (Heating, Ventilation, and Air Conditioning) services from a touch-screen VIP resident phone
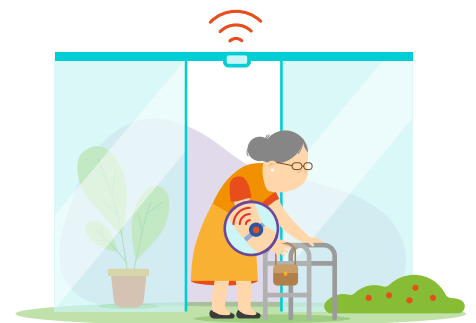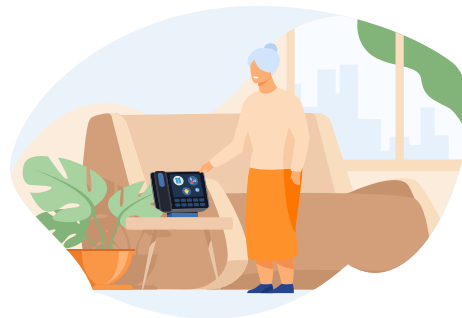
Alert, asset tracking, and contact tracing solutions for improved safety

- Geo-location of residents (wandering or at risk)
- Automated access control and density in specific zones (for example; to maintain quarantine)
- Alert in case of emergency (geo-notification)

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