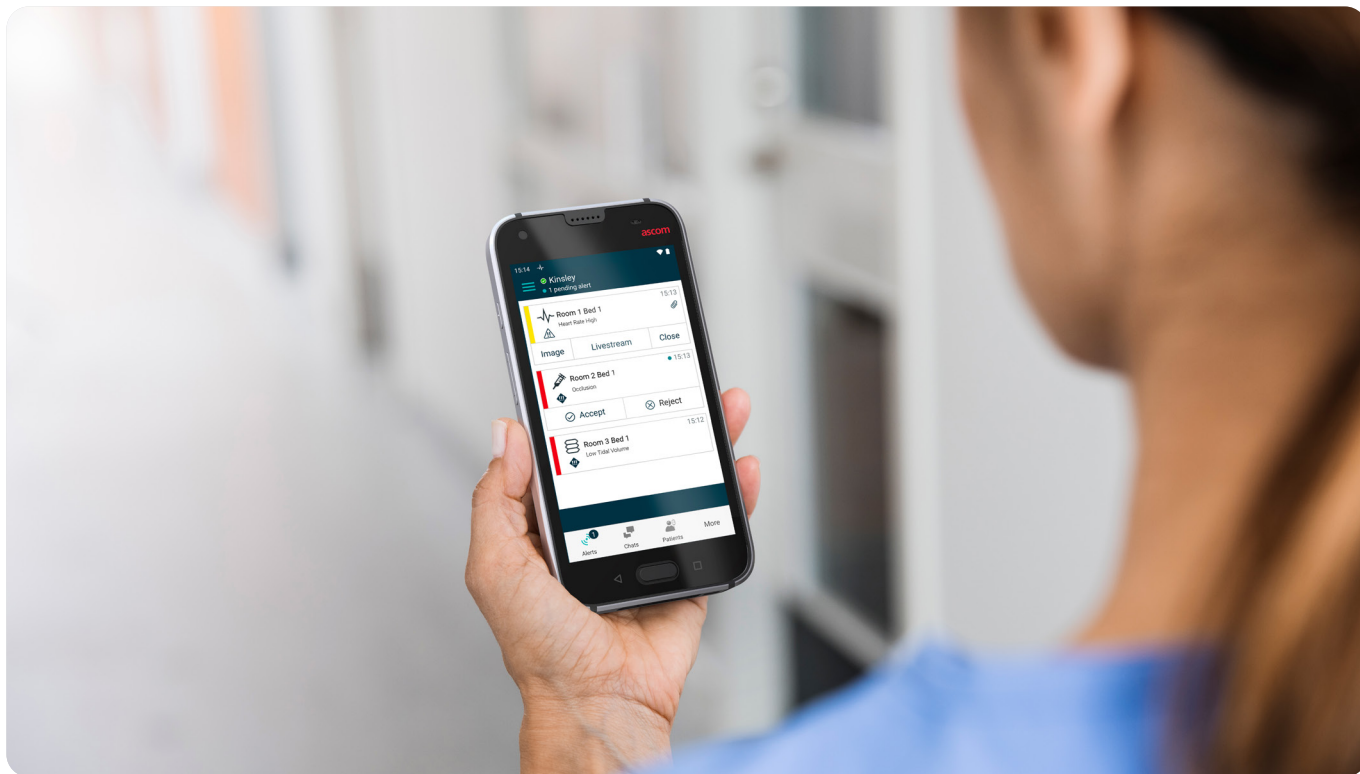# Ascom silent medical alarms solution for acute care

It's all about better outcomes

Silent medical alarm notifications can contribute to a quieter healing environment— good news for Intensive Care Unit (ICU) and High Dependency Unit (HDU) patients who face high risks of delirium[3]. Clinicians, too, can benefit, as the frequency of alerts can increase stress and contribute to higher risks for alarm fatigue among frontline caregivers[4,5]. The Ascom silent medical alarm solution eliminates audible bedside alarms from selected medical devices (infusion pumps, ventilators, etc.), while helping to ensure the alarm notifications (audible and otherwise) are distributed to designated recipients.

Noise in hospital rooms is reported as the significant factor behind patients' sleep disturbance.[1]

WHO recommends that night-time noise not exceed 30 dB. But studies consistently find nighttime levels of 42 - 60 dB, and daytime of 57 – 72 dB.[2]

Key benefits

The solution eliminates the audible alerts generated at patients' bedsides by medical devices such as infusion pumps. Instead, the alarm notifications are distributed to designated recipients, and appear as audio and/or visual alerts on handsets, PC monitors or wall-mounted dashboards. When using a handset such as the Ascom Myco 3 smartphone, clinicians can also use the device to initiate actions, coordinate with colleagues and share near-real time clinical data.

- Patients benefit from a quieter healing environment—while caregivers can be confident they receive all appropriate alarm notifications, even while doors are closed

- Fewer audible alerts can help reduce the potential for cognitive overload and alarm fatigue among frontline caregivers[6]

- Reliable alarm distribution system that sends notifications to the correct clinician via a distributed alarm system (CDAS)

- A silent medical alarm regime can contribute to improved patient outcomes, including but not limited to shorter stays in ICUs/HDUs[7]

- A calmer working environment, combined with the ability to access and share near-real time data, can optimize clinical workflows
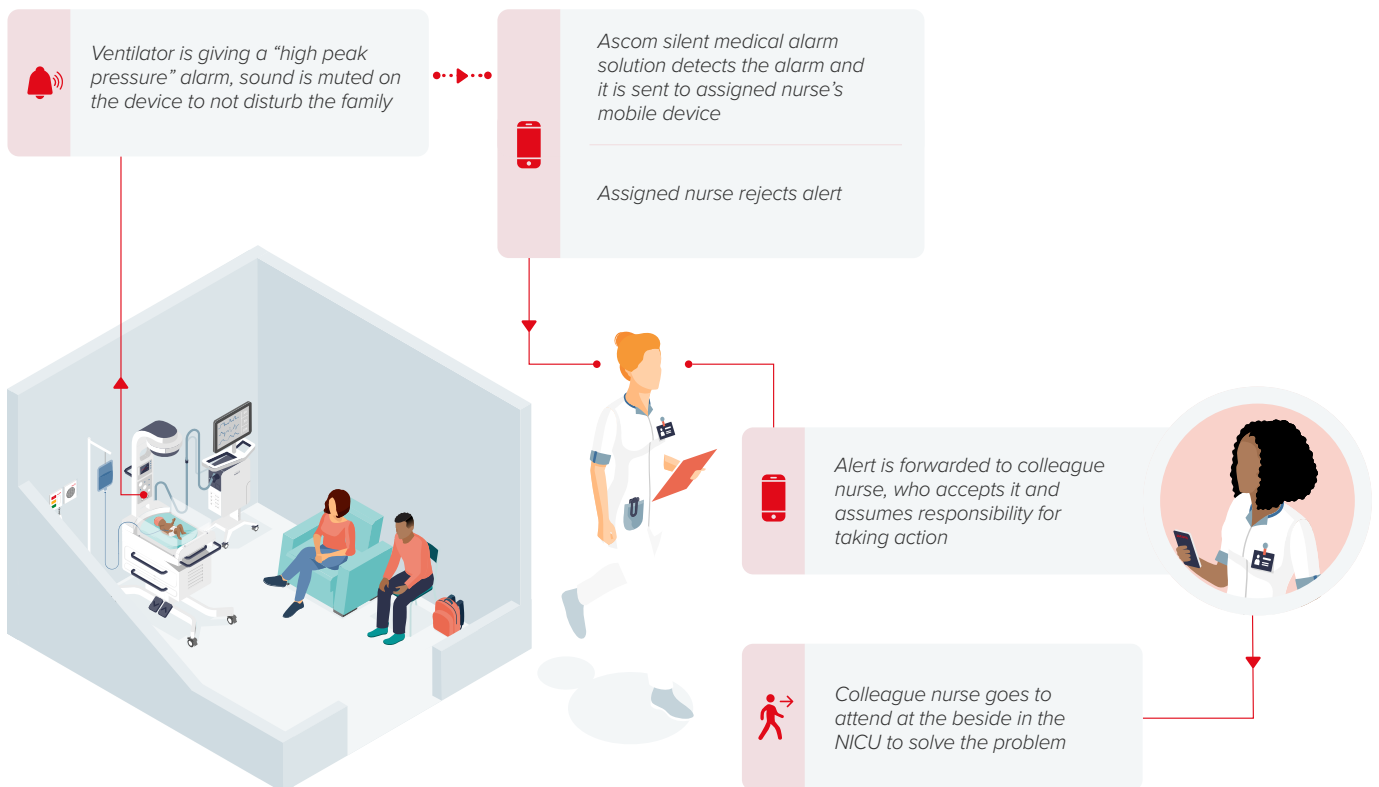
Always on your terms

The Ascom Silent Medical Alarms solution can be configurable for specific sites. Whatever your hospital's needs, we ensure the solution is interoperable with your existing and/or planned communication systems and infrastructure.

Solution components

An Ascom Silent Medical solution includes modules from our software suite, as well as enterprise-grade handsets that include the Android Enterprise Recommended* Myco smartphone.

Workflow example

Ventilator is giving a "high peak pressure" alarm, sound is muted on the device to not disturb the family

Ascom silent medical alarm solution detects the alarm and it is sent to assigned nurse's mobile device

Assigned nurse rejects alert

Alert is forwarded to colleague nurse, who accepts it and assumes responsibility for taking action

Colleague nurse goes to attend at the beside in the NICU to solve the problem

Your challenges

The Ascom silent medical alarm solution solves a key challenge in ICU/HDU management: how to reduce alarm-related noise while at the same time ensuring alarm notifications are transmitted to, and acted upon, by the appropriate recipients, at the right time.

- Caregivers are naturally concerned about missing an alarm notification. With the solution all medical device-generated alerts are transmitted to designated personnel for the appropriate response and processing

- Further peace of mind is provided by an automated reversion to audible alarms at the bedside should a fault appear in the Distributed Alarm System

- The ability to share context-rich, near-real time clinical data with colleagues via handsets, PC monitors and dashboards can help optimize workflows for hard-pressed ICU/HDU staff

Key Features

- Fully open and interoperable with a large number of medical devices and healthcare communication systems on the market

- A uniquely end-to-end solution. Includes everything from initial assessment with Ascom Clinical Consultants to customized Solution Lifecycle Plans and worldwide training

- The solution is easily scalable, and equally at home in small specialist clinics or in multi-site healthcare systems

- Alarm system supervises distribution of alarm notification from alarm source to caregiver. Detects and delivers notification of failure in the event of a faulty device

- Connects to central technology surveillance systems for quicker notification in the event of device failure

---

*Android is a registered trademark of Google PLC.
Microsoft Windows® is a registered trademark of Microsoft Corporation

[1] Park, Marn Joon; Yoo, Jee I Lee; Cho, Byung Wook; Kim, Ki Tae; Jeong, Woo Chul; Ha, mina. "Noise in hospital rooms and sleep disturbances in hospitalized medical patients". Environmnetal Health and Toxicology: Eht, 2014, Vol. 29 (29), p. 6.1-6.6.

[2] Bruder, Alexandra L; Rothwell, Clayton D; Fuhr, Laura I; Shotwell, Matthew S; Edworthy, Judy Reed; Schlesinger, Joseph J. "The Influence of Audible Alarm Loudness and Type on Clinical Multitasking",Journal of Medical Systems.2021 11 23 Vol. 46 (1). p. 5.

[3] Xie H, Kang J, Mills GH. "Clinical Review: The Impact of Noise on Patients' sleep and the Effectiveness of Noise Reduction Strategies in Intensive Care Units". Crit Care. 2009;13(2):208. doi: 10.1186/cc7154. Epub 2009 Mar 9.

[4] "An investigation of sound levels on intensive care". Available at www.ascom.com

[5] Na, S.J., Ko, RE., Ko, M.G. et al. "Automated Alert and Activation of Medical Emergency Team Using Early Warning Score". Journal of Intensive Care intensive care 9, 73 (2021). https://doi.org/10.1186/s40560-021-00588-y

[6] Puolitaival A, Savola M, Tuomainen P, Asseburg C, Lundström T, Soini E. "Advantages in Management and Remote Monitoring of Intravenous Therapy: Exploratory Survey and Economic Evaluation of Gravity-Based Infusions in Finland" [published online ahead of print, 2022 Mar 14]. Adv Ther. 2022;1-13. doi: 10.1007/s12325-022-02093-6

[7] Pradhan, A., Reynolds, E., Sweyer, B., & J.Schlesinger, J. "SLAAP: Silencing Loud Alarms to Attenuate PTSD: Frequency- Selective Silencing Device for Digital Filtering of Alarm Sounds to Enhance ICU Patient Recovery. In M. B. Alonso, & E. Ozcan (Eds.), Proceedings of the Conference on Design and Semantics of Form and Movement - Sense and Sensitivity, DeSForM 2017. IntechOpen. https://doi.org/10.5772/intechopen.71112

ascom

Ascom Holding AG
Zugerstrasse 32
CH-6340 Baar
Switzerland
info@ascom.com
Phone: + 41 41 544 78 00
ascom.com

About Ascom

Ascom is a global solutions provider focused on healthcare ICT and mobile workflow solutions. The vision of Ascom is to close digital information gaps allowing for the best possible decisions – anytime and anywhere. Ascom's mission is to provide mission-critical, near-real time solutions for highly mobile, ad hoc, and time-sensitive environments. Ascom uses its unique product and solutions portfolio and software architecture capabilities to devise integration and mobilization solutions that provide truly smooth, complete, and efficient workflows for healthcare as well as for industry and retail sectors.

Ascom is headquartered in Baar (Switzerland), has operating businesses in 18 countries and employs around 1,300 people worldwide. Ascom registered shares (ASCN) are listed on the SIX Swiss Exchange in Zurich.