



Maintaining a competitive
edge in device design

Why Solventum™ silicones

The most advanced system on the market supported by the Skin Experts

Solventum silicone materials are crafted with a focus on processability and are produced in ISO-13485 certified facilities, ensuring they are catalyst-free.

These materials offer an optimal balance between adhesion and gentle removal, making them suitable for prolonged wear or use with larger monitoring devices. Their strong adhesive-to-backing bond enhances processability and increases machine runtime, while their catalyst-free nature reflects a commitment to sustainability. The thin adhesive layer provides superior flexibility and conformability.

Leveraging over 60 years of expertise in medical devices and backed by world-class certified facilities, these materials come with the broadest portfolio of accompanying tapes and supportive technologies for device development.



Solventum Medical Tape 2487

Compared to standard silicone the Solventum hi-tack silicone brings you a gentle yet secure solution with increased shear performance, higher tack, stronger adhesion, and longer wear time.



Features and benefits

- Multiple adhesion levels available
- Flexible, Conformable
- Excellent Skin Adhesion
- Hi-Tack Silicone Adhesive¹ with proven adhesion levels up to 7 days wear time on skin, depending on the tape construction
- EtO Sterilization compatible
- Clear Non-Silicone/Non-Fluorinated Release Liner
- Strong adhesive to backing bond to minimize residue on both skin and production equipment

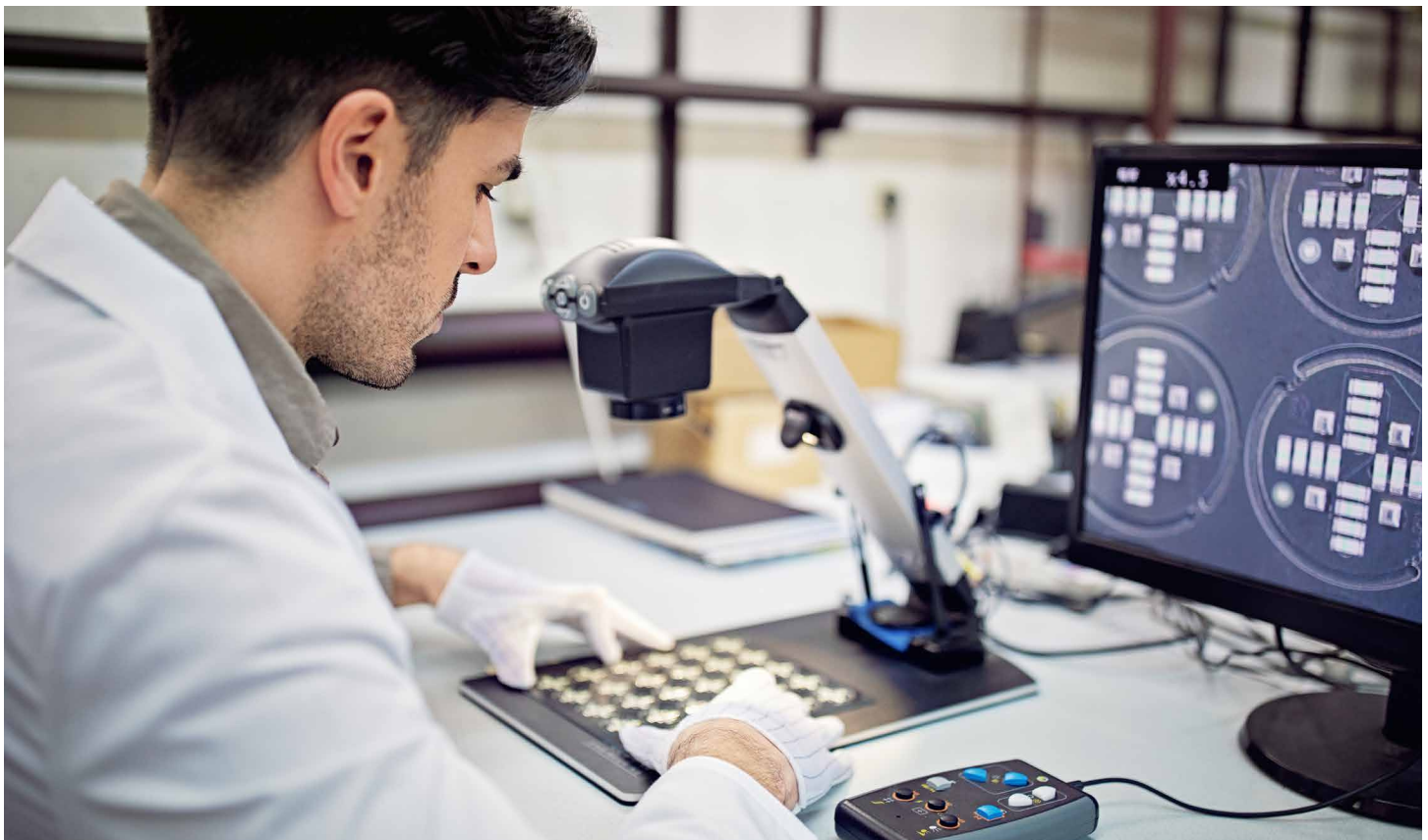
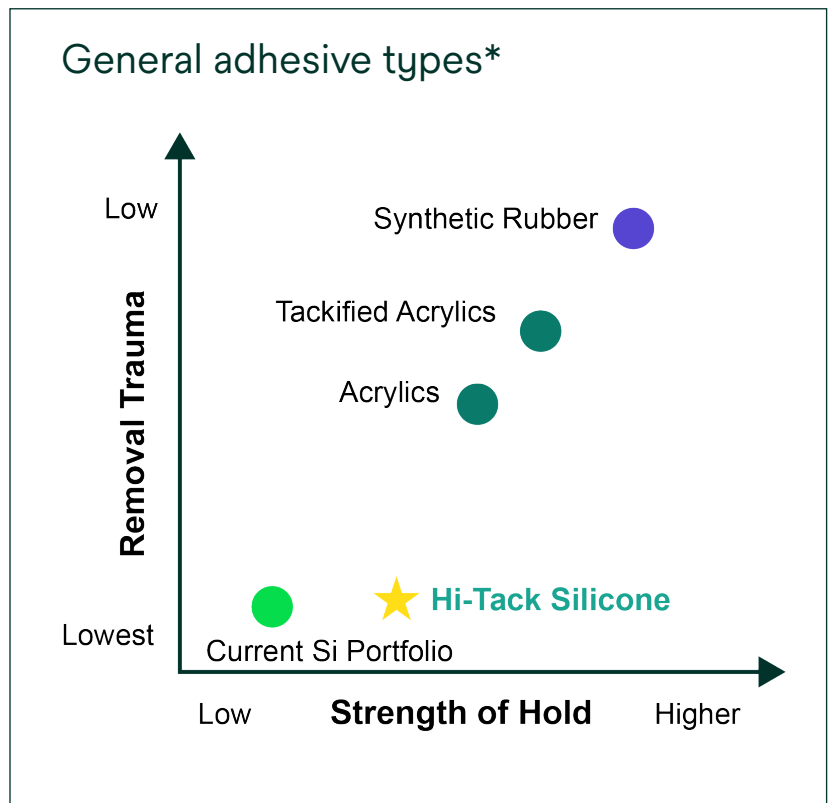
¹Conditions based on Solventum internal studies may not be representative of actual end use/performance and we recommend our OEM customers run their own studies using their device design.

Medical device adhesives

Our lab's proprietary formulation addresses the needs of device designers by bridging the gap between different adhesive technologies.

Many modern devices require acrylic or tackified acrylic formulations to adhere securely to the skin for extended wear times. However, this often results in a trade-off with patient or customer experience, such as removal trauma.

Our solution offers a balance between the gentle, short-term, low-weight bearing properties of silicone adhesives and the more flexible, but less gentle, qualities of acrylate adhesives, providing an optimal choice for device designers.



* Actual tape and device performance is dependent on device's design, wear duration, patient population, other components, material configuration, functionality, manufacturing/processing and branding, customers' have unique needs.

Customer needs and Solventum solution



Solventum Medical Tape 2487

Double-Coated Medical Tape with Hi-Tack Silicone and Acrylate Adhesives on Liner

The Double-Coated Medical Tape, featuring Hi-Tack Silicone and Acrylate Adhesives on a liner, offers a unique repositionable capability after its initial application. This tape gently adheres to the skin, effectively minimizing trauma to both skin and hair upon removal, while ensuring consistent adhesion throughout its use. Free from natural rubber latex and heavy metal catalysts, it is a safer choice for those requiring sensitive and reliable medical applications.

Solvantum hi-tack silicone adhesives

All the traditional properties of silicone adhesives with...

Table Stakes*

Maintain current 3M Si Portfolio differentiators (Bridged) versus competition and add value differentiators to distinguish from current portfolio.

- Improved Processability (vs Comp)
- No heavy-metal or equivalent Catalysts (vs Comp)
- Enhanced stability (vs Current)
- More Aggressive Adhesive (vs Current)
 - High tack (feel and test)
 - Higher Skin Adhesion

Must Have Differentiators*

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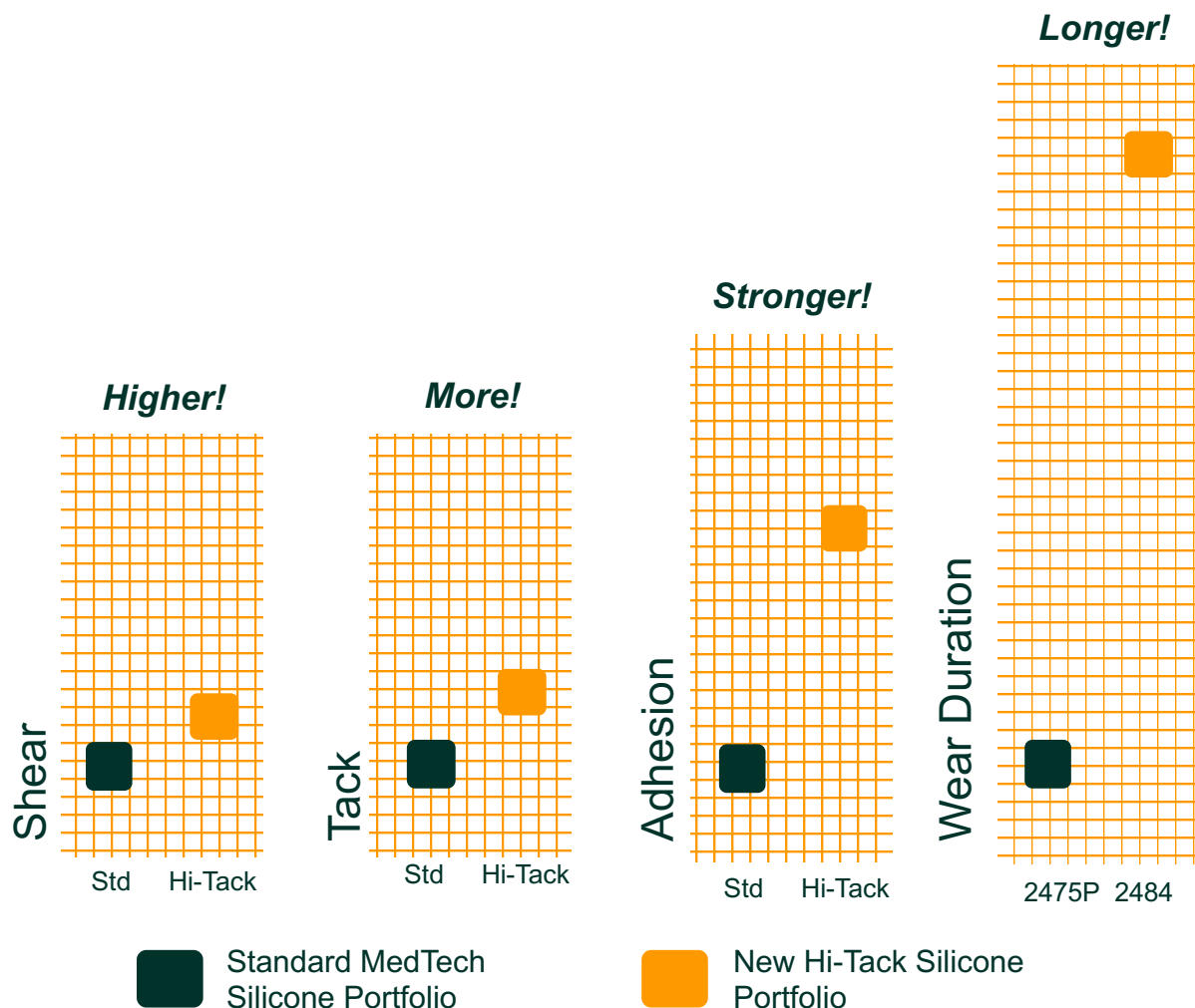
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Desired Differentiators

“Nice to have” differentiators enhance the business case. Most of these are in-process, but delayed due to COVID & Kamen delays)

- Extended Wear (7+ days)
- Superior Processability
- Suite of Repositionable Claims
- Quantifiable Adhesion Differentiation

* Additional clinical, processing and customer case studies required.

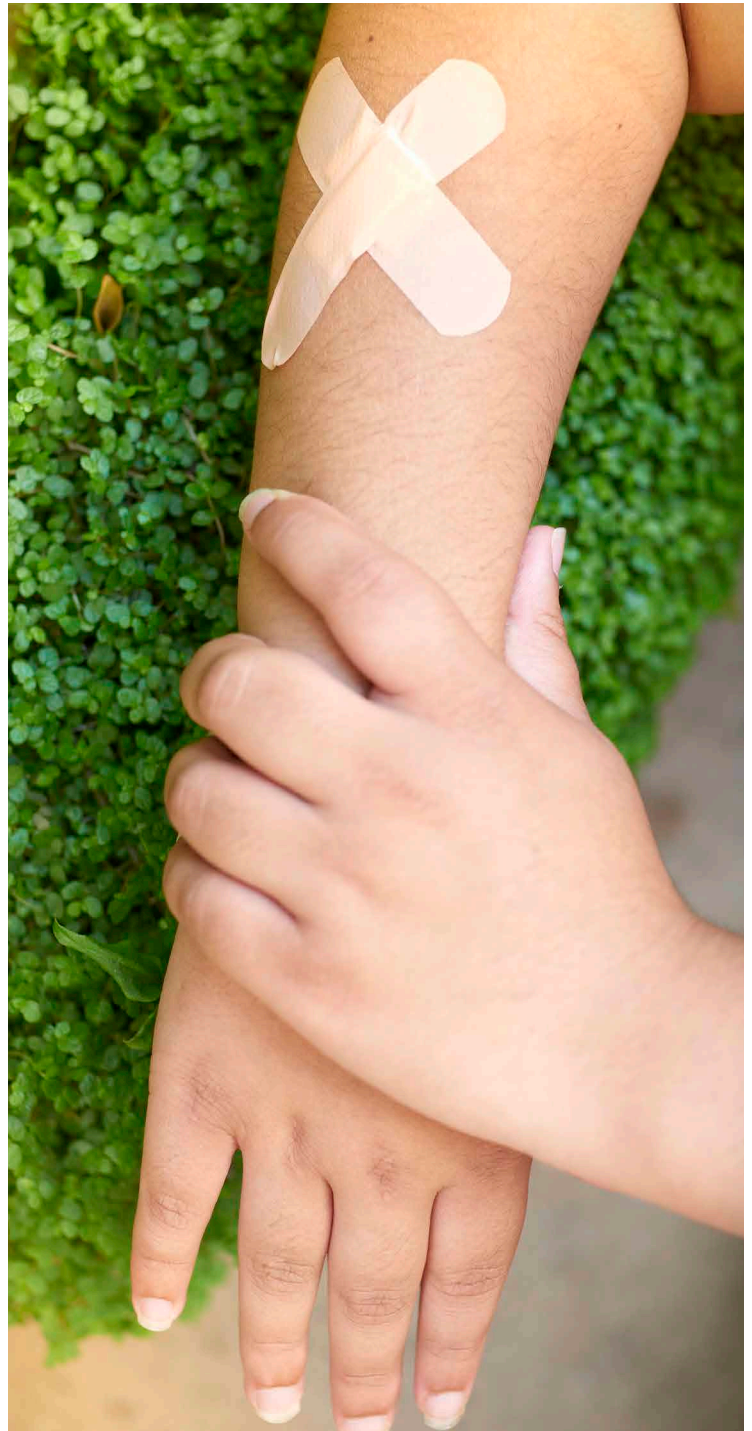


Medical Adhesive Related Skin Injury (MARSI)

A medical adhesive-related skin injury (MARSI) occurs when the layers of the epidermis are inadvertently removed due to the use of adhesives. This type of skin injury often arises from using adhesives that are too strong for their intended application, leading to skin stripping.

Additionally, adhesives that have not undergone thorough safety testing for skin use can cause irritation and damage. Prolonged moisture trapped between the adhesive and the skin can lead to maceration, further compromising skin integrity.

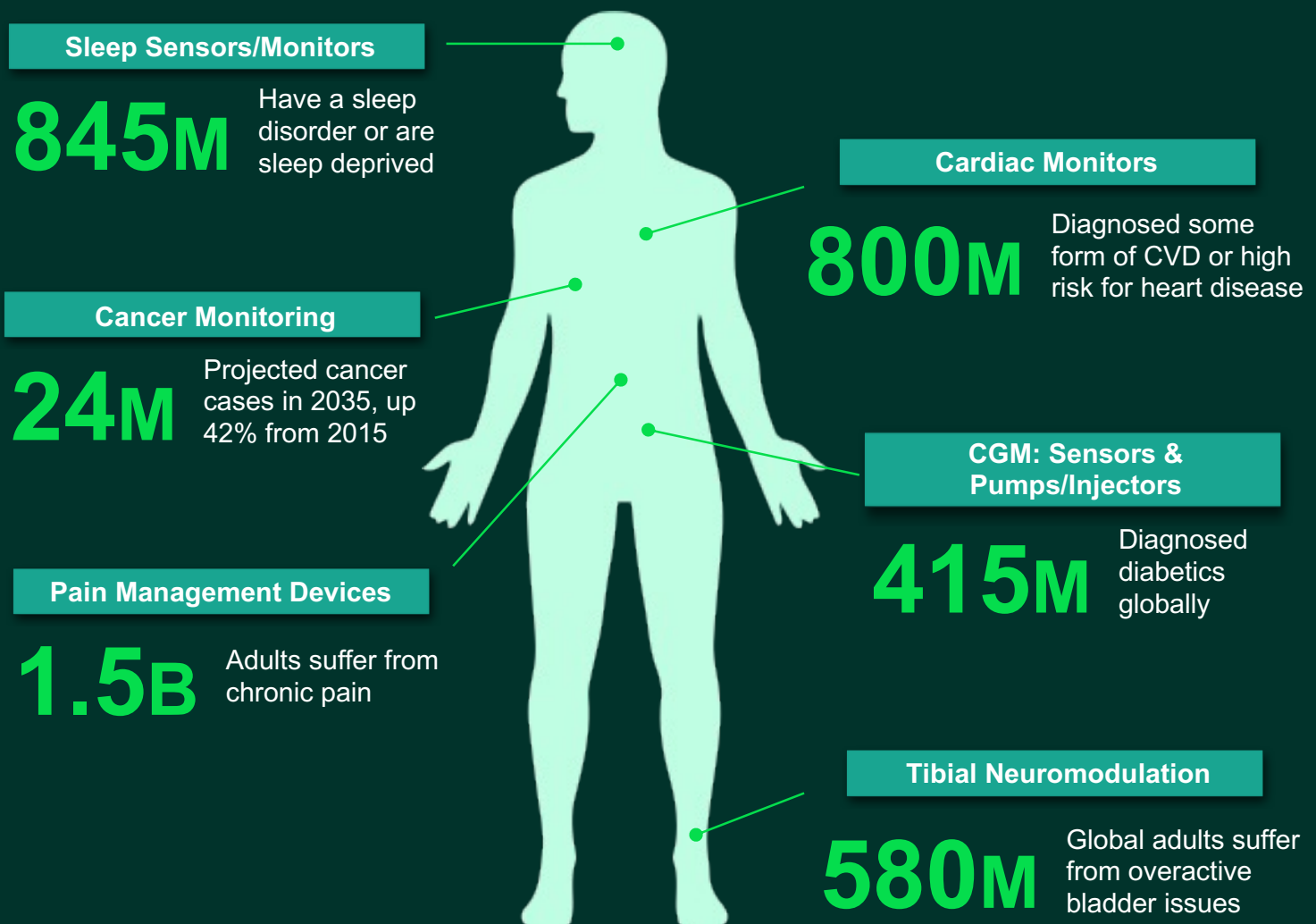
Balancing the need for secure adhesion with the risk of MARSI presents a significant challenge. However, this challenge can be mitigated by selecting the appropriate adhesive early in the design process, thereby avoiding potential skin injuries.



Wearables for global chronic disease crisis

Effective management of chronic diseases and pain involves consistent daily actions beyond regular doctor visits. Wearable devices play a crucial role in reminding, alerting, and motivating patients, offering innovative strategies for adhering to treatment plans. These devices are increasingly valuable to manufacturers, patients, and society, becoming essential in incentivized wellness programs. Accessibility continues to expand, while hospitals are considering these devices as promising alternatives to traditional vital monitoring systems.

Modern wearable devices often utilize acrylic or tackified acrylic formulations for secure, long-lasting skin adherence. To enhance the user experience, solutions exist that combine the gentle, lightweight properties of silicone adhesives with the flexibility of acrylate adhesives. This optimal combination offers device designers improved functionality and comfort, ensuring secure attachment while prioritizing patient comfort.



Potential device application examples



- Curved body surfaces requiring gentle but secure adhesion
- Large patches
- Hairy surfaces where standard adhesive is not strong enough
- Any place acrylate adhesives are not gentle enough
- Multi-day repeat device wearables
- Heavier pediatric and geriatric devices

Healthcare professionals are dedicated to exploring all avenues to enhance, secure, and innovate healthcare solutions for the benefit of all individuals, while also focusing on integrating new wearable devices and advanced technologies into the market.

Social determinants of health

Health outcomes are largely influenced by social determinants such as economic status, age, and living conditions, accounting for 80% of health impacts outside clinical care. This insight has led to the rise of long-term wearable devices, remote patient monitoring, and home-based healthcare solutions as essential components in addressing these external factors.

Our innovative solutions effectively address these determinants by offering materials with optimal adhesion and ease of removal for long-term use with larger devices. These materials boost machine efficiency and sustainability through a catalyst-free, flexible adhesive layer. With a wide range of tapes and technologies, we support advanced device development, driving change in medical device manufacturing.



Economic stability



Education access
and quality



Health care access
and quality



Neighborhood and
built environment



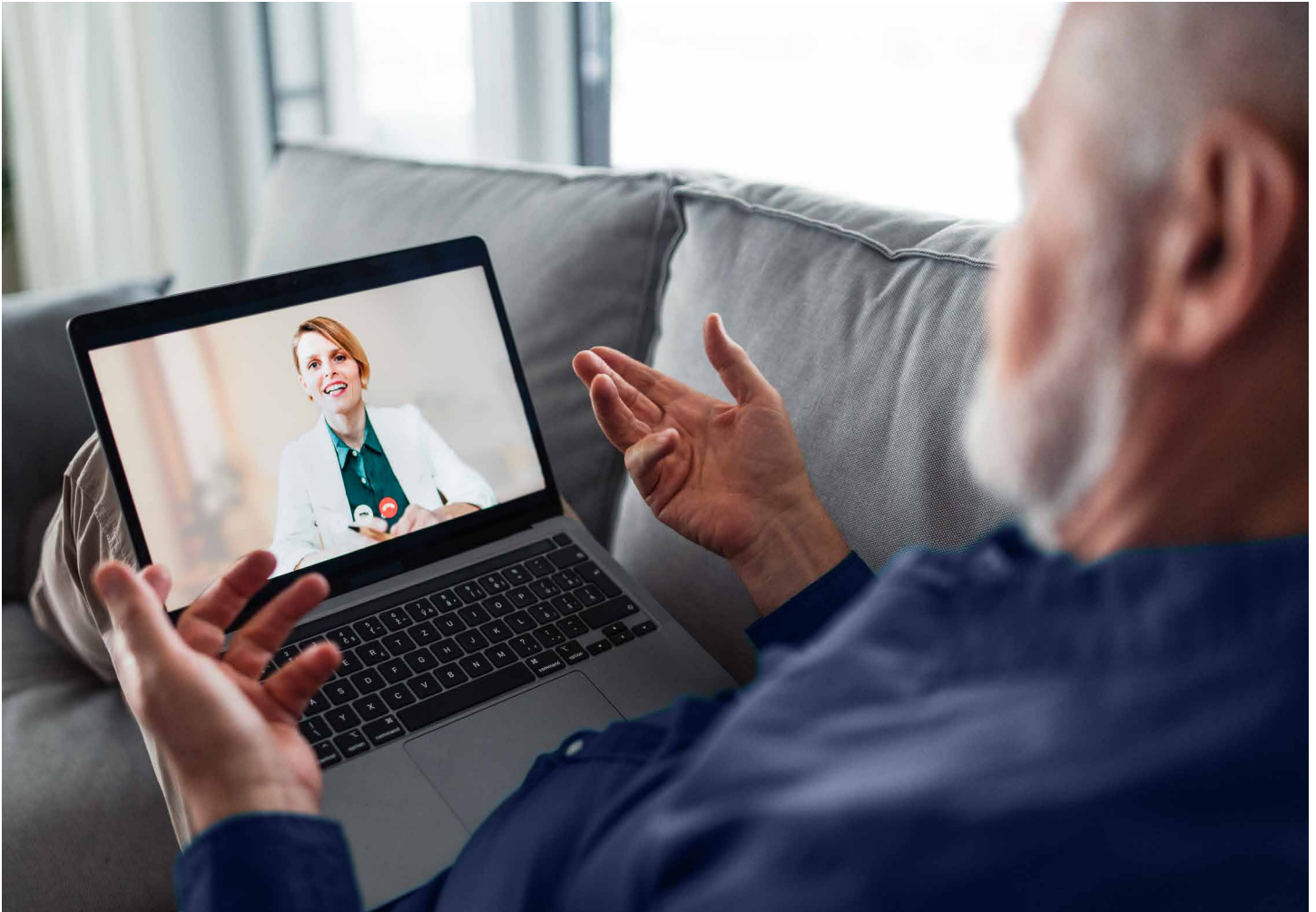
Social and community
context

Changes in how we experience care



- As care becomes available right where we are – we will see a decreased need for follow-up appointments, more remote monitoring and interventions that happen sooner. We'll avoid unnecessary testing and prescriptions and even decrease length of stay at emergency departments to improve patient flow.³
- Governments and investors around the globe are eager to support the shift to mobile health.
- According to BCC Research, more than 500 mobile health initiatives are underway around the world.⁴
- As more people age and/or develop chronic conditions, the healthcare system will need to expand beyond the hospital and clinic to accommodate the influx of patients seeking care.
- We will also see a more proactive approach toward health. The industry will go beyond managing diseases and symptoms and incent wellness and preventative care. Digital technologies will complement this shift by helping people get and stay healthy.
- China, for example, has developed e-well-being applications that allow patients to survey their COVID-19 symptoms from anywhere. The country also offers virtual programs to help patients with basic diseases monitor their symptoms from home.⁵

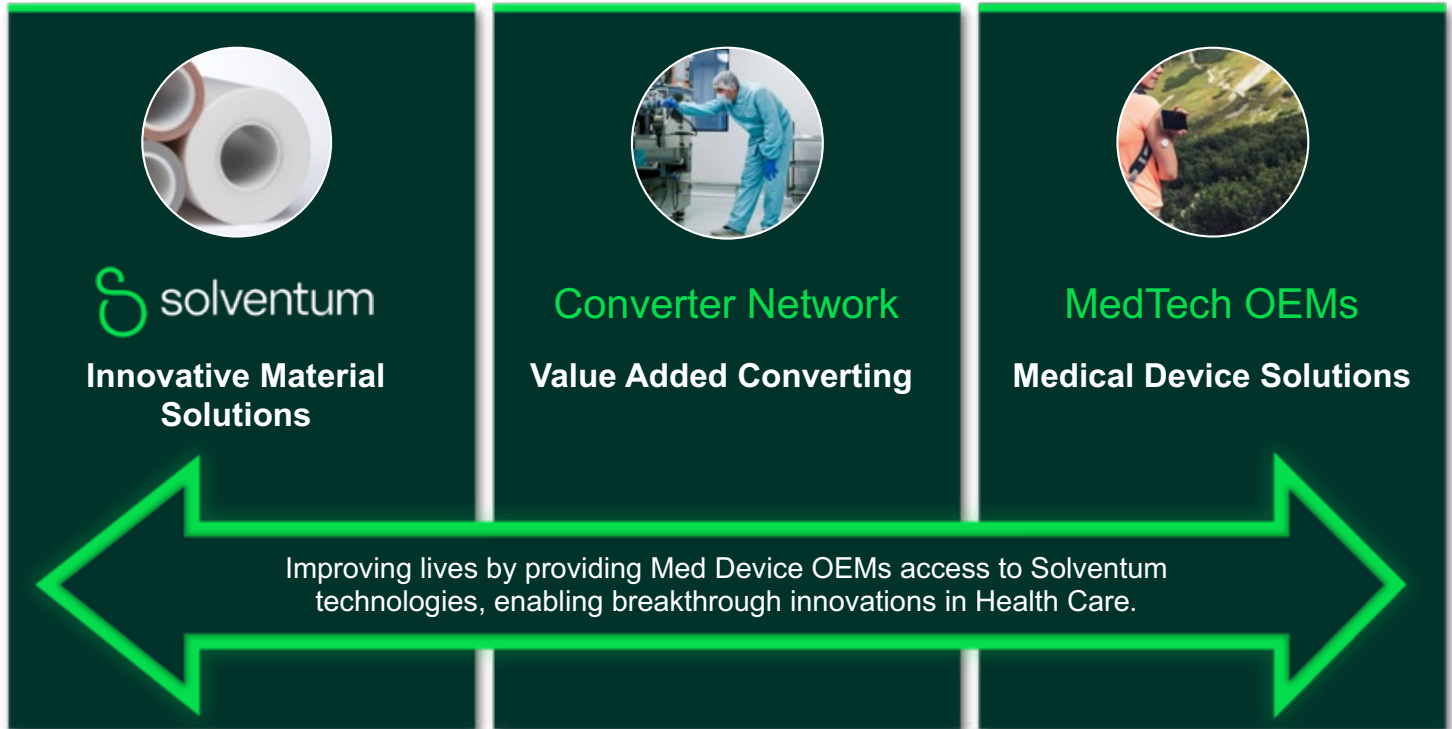
Health at-home and on-the-go



The rise of wearable technologies has revolutionized healthcare accessibility, enabling individuals to receive care at convenient locations such as home, work, the gym, or even while shopping. According to Lux Research, nearly 80 million consumers benefit from wearables designed for disabilities and chronic conditions, with the market projected to grow by almost 18% in the next two years. Companies focusing on healthcare have an opportunity to offer integrated solutions that address both diseases and chronic conditions, enabling consumers to take greater control over the timing and location of their care.

Design-in driven business model

Enhancing reliability and features in medical device design through advanced adhesive solutions



We assist manufacturers in designing and constructing medical devices that are more reliable and feature-rich by offering a diverse range of adhesive, backing, and tape construction options, as well as films, transdermal components, and medical device construction solutions. Our components are designed to work seamlessly while maintaining skin integrity. From the start, we provide unwavering partnership to bridge the gap for device designers between gentle, short-term, low-weight bearing silicone adhesives and the more flexible, but less gentle, acrylate adhesives.



A bond you can trust

Our experts can help you select the best components for your medical device design, from “skin-friendly” materials to aggressive medical adhesives used in the construction of your device. Whatever product development stage you’re at, we’re ready to help you succeed – with solutions that can help improve device reliability, enhance performance and reduce costs.

Visit FindMyAdhesive.com to learn more



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