B|BRAUN
SHARING EXPERTISE

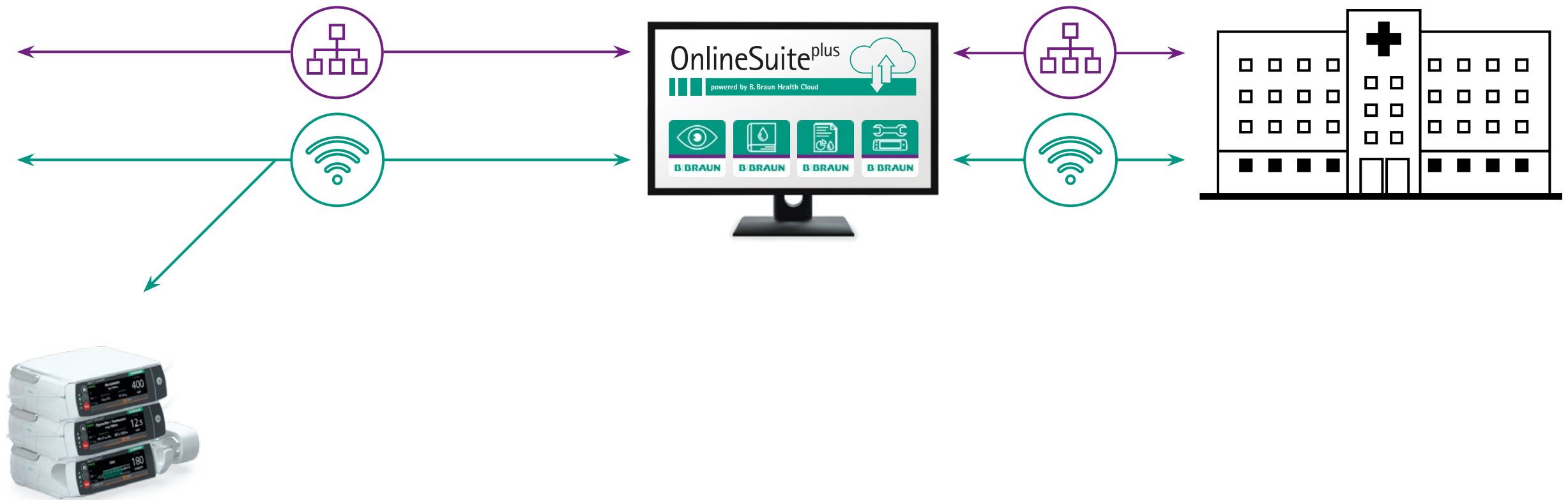| PRESCRIPTION | PATIENT ACCESS | PREPARATION | APPLICATION | DISCHARGE MANAGEMENT |

Space^plus & OnlineSuite^plus

Advanced. Superior. Digital.

#spaceplus

A MILESTONE
IN INFUSION THERAPY.

Welcome to Space^{plus} & OnlineSuite^{plus} – our new Smart Infusion Ecosystem!

Space^{plus} and OnlineSuite^{plus} make up a unique ecosystem that allows for the seamless flow of data. Each pump is equipped with an integrated WiFi module, resulting in a continuous bidirectional exchange of data – even during transport.

OnlineSuite^{plus}
powered by B. Braun Health Cloud

B BRAUN   B BRAUN   B BRAUN   B BRAUN

70 YEARS
OF EXPERIENCE
IN INFUSION
PUMP SYSTEMS
— SINCE 1951 —

ENGINEERED |
& MADE |
IN GERMANY

TODAY'S THERAPY.

Today's infusion pumps are designed to improve accuracy and reduce medication errors.

However, studies have shown that these devices are involved in 35-60% of the estimated 770,000 adverse drug events (ADEs) that occur each year.[1]

In order to reduce infusion errors, hospitals demand smart devices that are connected to the hospital network.

More connectivity always comes with potential new vulnerabilities. Thus, a new technology is just as smart as its cyber security.[6]

30%
OF SLEEP AROUSALS COME FROM ENVIRONMENTAL FACTORS, NOISES AND ALARMS IN THE ICU.

$ 370,000
OF INCREMENTAL REVENUE ARE GENERATED FROM THE REDUCTION OF NEEDED KEYSTROKES IN SMART PUMPS, FROM 15 TO 2 STROKES (OR 86%).

15–19%
OF MEDICAL DEVICES WERE RUNNING ON OUTDATED OPERATING SYSTEMS, POSING A SECURITY RISK.

23,000
REPORTS OF MALFUNCTIONS AND INJURIES WHILE USING IV PUMPS WERE SUBMITTED.

>7 MILL.
PATIENTS ARE AFFECTED BY PREVENTABLE MEDICATION ERRORS, RESULTING IN ANNUAL COSTS OF OVER $21 BILLION.

1. Van der Wal Y. A Datadriven Feasibility Study on Silent Pumps: Applying CRISP-DM in a Knowledge Discovery Process. Universiteit Utrecht 2017.

2. Biltoft J, Finnemann L. Clinical and financial effects of smart pump-electronic medical record interoperability at a hospital in a regional health system. Am J Health-Syst Pharm. 2018; 75(14):1064-8.

3. https://www.securitymagazine.com/articles/94381-healthcare-security-challenge-how-cyberattacks-are-evolving

4. Giuliano KK. Intravenous Smart Pumps : Usability Issues, Intravenous Medication Administration Error, and Patient Safety. Crit Care Nurs Clin. 2018; 30(2):215-24.

5. Da Silva BA, Krishnamurthy M. The alarming reality of medication error: a patient case and review of Pennsylvania and National data. J Community Hosp Intern Med Perspect. 2016 Sep 7;6(4):31758. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5016741/

Please refer to the following pages and see how Space*plus* & OnlineSuite*plus* can help you resolve these problems.
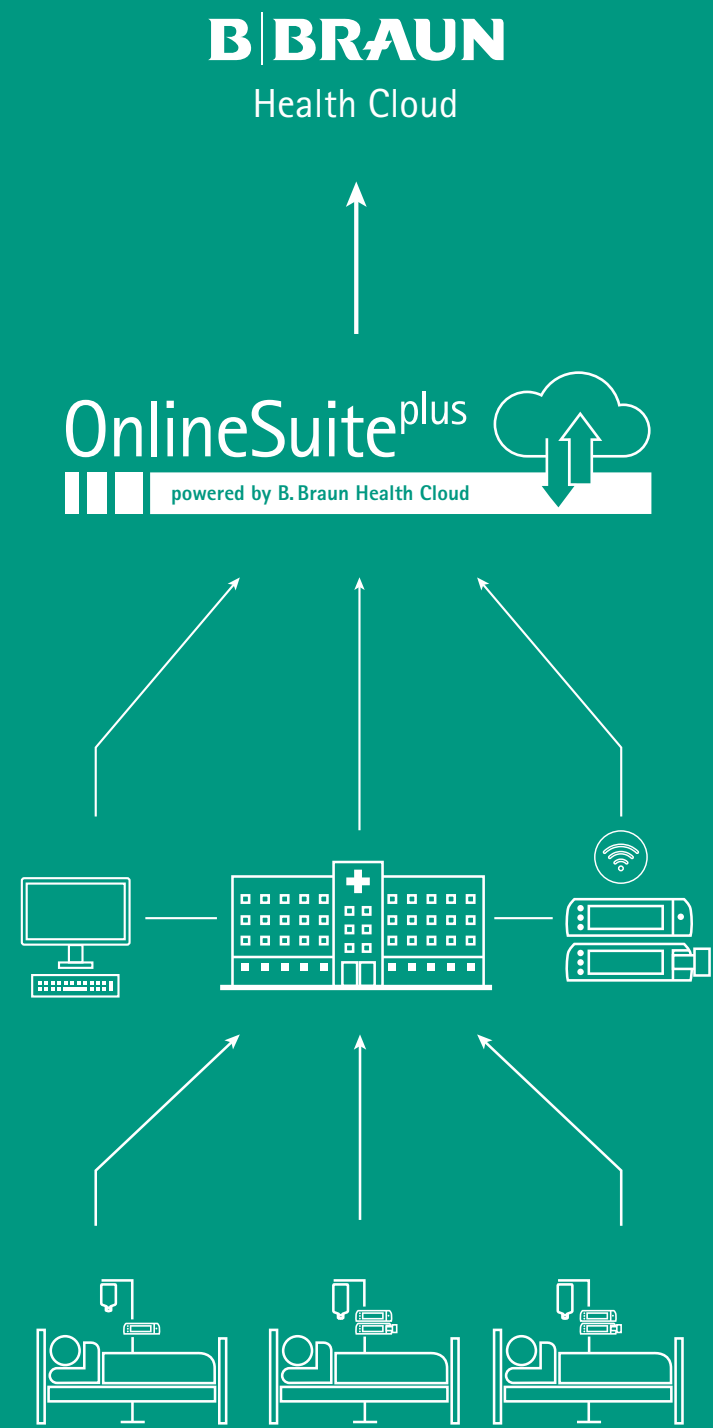
#hospitaldigitalization

THE DECISION FOR THIS
ADVANCED INFUSION SYSTEM
IS YOUR JOURNEY INTO THE
**DIGITALLY ENHANCED
MEDICATION OF THE FUTURE.**

CONNECTING AN ECOSYSTEM.

B|BRAUN
Health Cloud

The B.Braun Health Cloud connection provides the hospital with fully automatic updates and upgrades of software, access to E-Learnings, and further product information.

OnlineSuite^{plus}
powered by B.Braun Health Cloud

OnlineSuite^{plus} is the innovative IT platform providing software applications that help users to increase safety, efficiency, and therapy performance within the entire hospital.
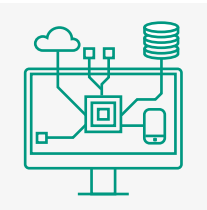
Space^{plus} infusions pumps are seamlessly connected to the hospital IT network thanks to the integrated WiFi module.

All infusion pumps may be used flexibly either in the station, as a single pump, or on transport.

SMART TECHNOLOGY
SMART HOSPITALS

INTEROPERABILITY
Engineered to be seamlessly integrated into the hospital IT environment using the bi-directional HL7-IHE framework for data communication.

CYBER SECURITY
Data transmitted through the hospital network between the Space^{plus} infusion pumps and the OnlineSuite^{plus} servers is encrypted.

SEAMLESS DOCUMENTATION
Space^{plus} infusions pumps introduce an internal data buffer for data caching when no network connection is available.

CONNECTING AN ECOSYSTEM.

Space^{plus} in combination with OnlineSuite^{plus} is THE DIGITAL INFUSION SYSTEM for hospitals that want to offer their patients complex, individual, and safe infusion therapy with maximum medical options.

It is easy to integrate, with state-of-the-art interoperability into hospital information systems and an advanced approach to more CYBER SECURITY, the Space^{plus} system is the digital solution of choice for the healthcare sector.

OnlineSuite^{plus}
powered by B.Braun Health Cloud

OnlineSuite^{plus} is the generation of innovative software applications for the digital management of B.Braun infusion pumps in hospitals.
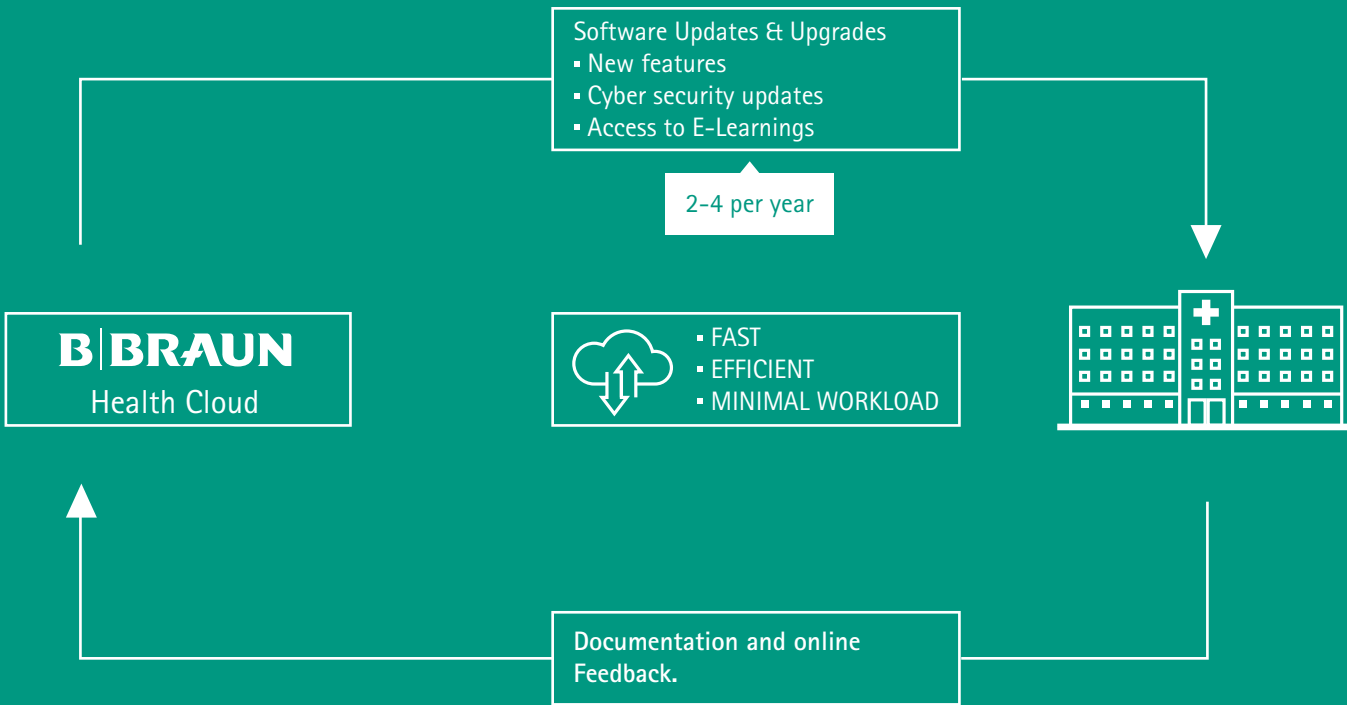
#remotemaintenance

AFTER SYSTEM IMPLEMENTATION,
YOU'LL RUN **A LOT OF MILES
LESS** THROUGH THE HOSPITAL.

DIGITAL INFUSION PUMP UPDATES

Software Updates & Upgrades
- New features
- Cyber security updates
- Access to E-Learnings

2-4 per year

B|BRAUN
Health Cloud

- FAST
- EFFICIENT
- MINIMAL WORKLOAD

Documentation and online Feedback.

TODAY'S MANUAL PROCESS

Software generation:
- New feature
- Cyber security fix

- Customer appointment
- Travel to customer

- Locate/collect device
- Perform update
- Distribute device

- Documentation on paper

1-2 per year

Manual Process for executing <u>one</u> SW-Update Cycle:

approx. 40 hours per care area

Manual processes for infusion pump updates are time consuming, interrupt clinical workflows due to the unavailability of infusion pumps during update procedures, and can last several weeks.

MAKE PROGRESS
NOT MILES

ZERO TOUCH DEPLOYMENT
Remote updates of infusion pumps via the hospital network without interrupting the clinical workflows.

ALWAYS THE LATEST SOFTWARE
The B. Braun Health Cloud pro-vides direct access to the latest software, E-Learnings, and further product information.

DRUG LIBRARIES ON THE FLY
Drug Library data is always up to date at the infusion pumps.

DRIVING DIGITALIZATION. HEALTHCARE 4.0.

Efficient processes for updating infusion devices with new SOFTWARE AND DRUG LIBRARY DATA through the hospital's network is an essential time-saving benefit for the biomedical engineering department.

Equally important from a clinical perspective is the fact that infusion therapy is not interrupted during the controlled TRANSFER OF UPDATES.
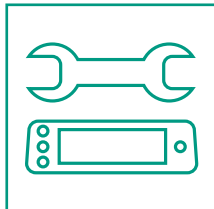
DeviceManager^plus
Technicians' centralized toolbox for managing infusion pumps across the entire hospital via its network.

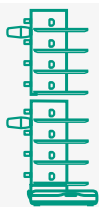# BENCHMARK FOR WORKPLACE DESIGN AND FLEXIBILITY.

TRUST IN EXPERIENCE
QUALITY OF LIFE

IP44 MOISTURE PROTECTION
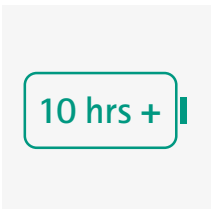Our pump is first in class with IP44 moisture protection against splashing water from any direction.

SUPERIOR WORKPLACE DESIGN
Giant possibilities in the smallest of spaces: The modular system allows for configurations of up to 24 pumps.

BATTERY CAPACITY
Long-lasting batteries set the staff free from inflexible wall sockets.

10 hrs +

BENCHMARK FOR WORKPLACE DESIGN AND FLEXIBILITY.

Easy and tool-free CONNECTION OF UP TO 6 STATIONS that can be extended to a workstation for UP TO 24 INFUSION PUMPS. The station displays visual and audible alarms centrally, allowing for quicker alarm localization within the room. The innovative design supports routine tasks like cleaning and disinfection.

reddot winner 2021

iF International Forum Design

iF DESIGN AWARD 2021

#userexperience

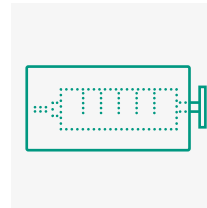ON THE **FIRST DAY** THE PUMP
MADE **NURSES** SMILE.

EASE BY DESIGN.

TECHNOLOGY WITH A TOUCH
EFFICIENCY WITH A SMILE

SYRINGE STATUS VIA UI
The new user interface makes it even easier for you to schedule syringe changes easily, as the fill status of the syringe is visualized on the screen.
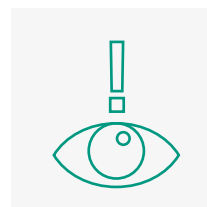
INTUITIVE USER INTERFACE
The self-explanatory user interface guides healthcare professionals safely with a superior usability dimension.

AT A GLANCE
Even from a far distance, the active agent of a running infusion or pump alarm can be identified.

EASE BY DESIGN.

The operation of Space^plus is highly USER-FRIENDLY AND INTUITIVE and can be adapted to clinical workflows in order to reduce medication errors.

Both the Infusomat® and the Perfusor® have the SAME DESIGN, INTERFACE, AND MENU STRUCTURE. This means less training for healthcare professionals and a reduced risk of incorrect handling.
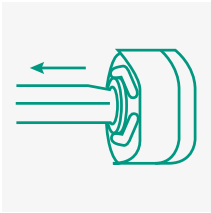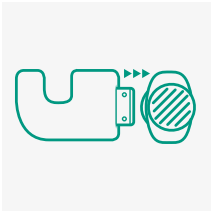
Space^plus allows one to REACT QUICKLY, APPROPRIATELY, AND SAFELY. Without thinking.

INTERACT WITH TECHNOLOGY
INTERFACE WITH LIFE

SYRINGE PISTON BRAKE
The unique syringe piston brake prevents freeflow and handling mistakes during syringe change.

OUTSTANDING ACCURACY
Precision determines health. Space^{plus} Perfusor® and Space^{plus} Infusomat® introduce new dimensions of delivery rate accuracy based on superior mechanical drive technology.

FULL AUTOMATIC DRIVE
The automatic drive technology allows for outstanding start-up when changing disposables: it's fast, safe, and highly accurate.

INFUSOMAT® MEETS PERFUSOR®

The innovative drive technology not only enables OUTSTANDING STARTUP AND DELIVERY PERFORMANCE, but also delivers safety and unique convenience when changing disposables – FREEFLOW IS RELIABLY PREVENTED.

Catecholamines are also not a problem, as they can be administered with the Infusomat® DUE TO CONSISTENTLY HIGH PRECISION.

SUPERIOR DESIGN FOR MORE EFFECTIVENESS.

FLOW ACCURACY AT 25 ML/H

Flow

50.0

37.5

25.0

12.5

Time

—— Space^{plus} Infusomat®

—— Competitor
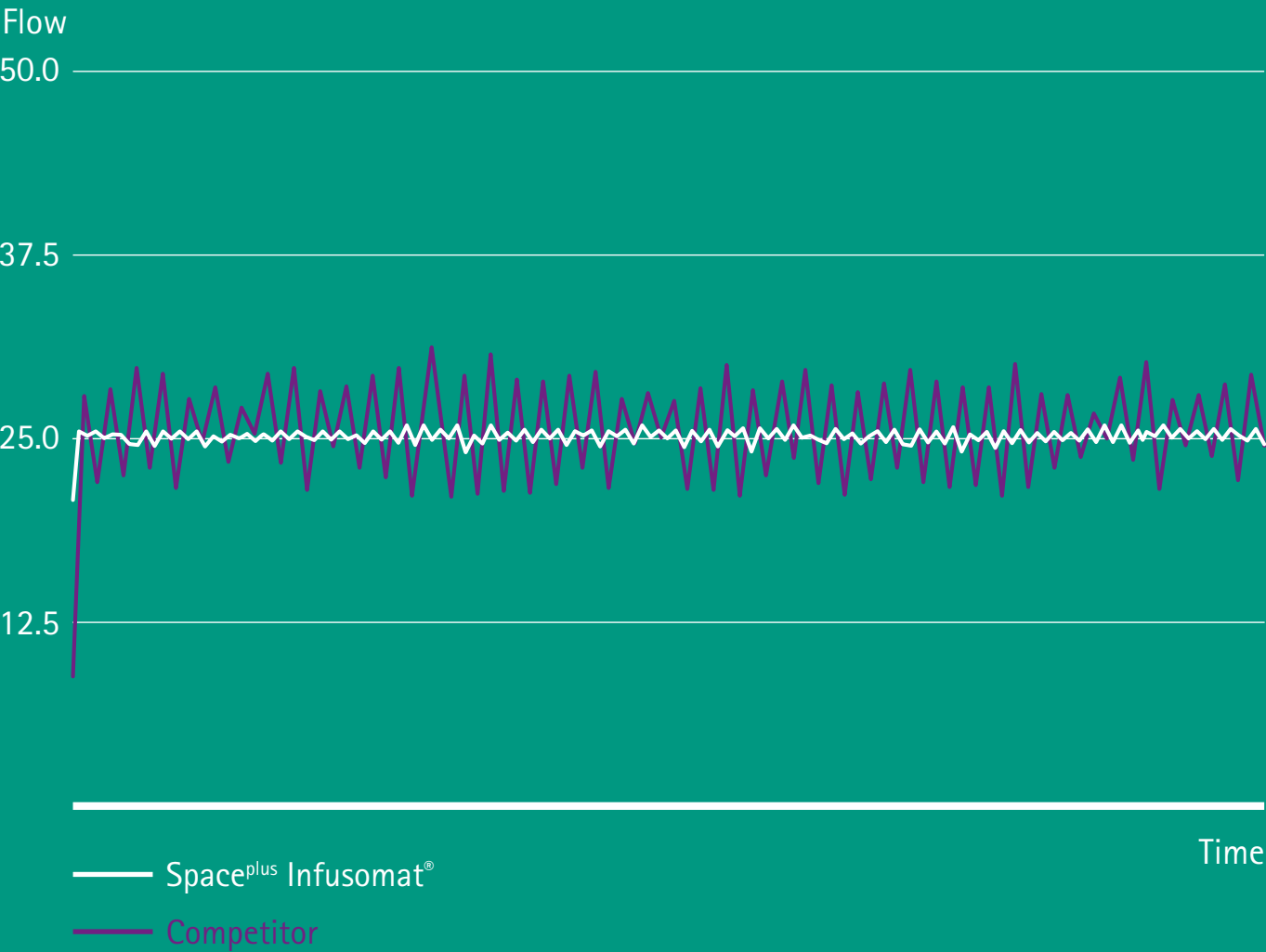
These graphs show the accuracy and uniformity of flow over time. It must be remembered that the delivery characteristics and the delivery accuracy are significantly affected by the disposable used.

Accurate and consistent flow rate are particularly important for high-alert medications that pose significant risk when improperly delivered.
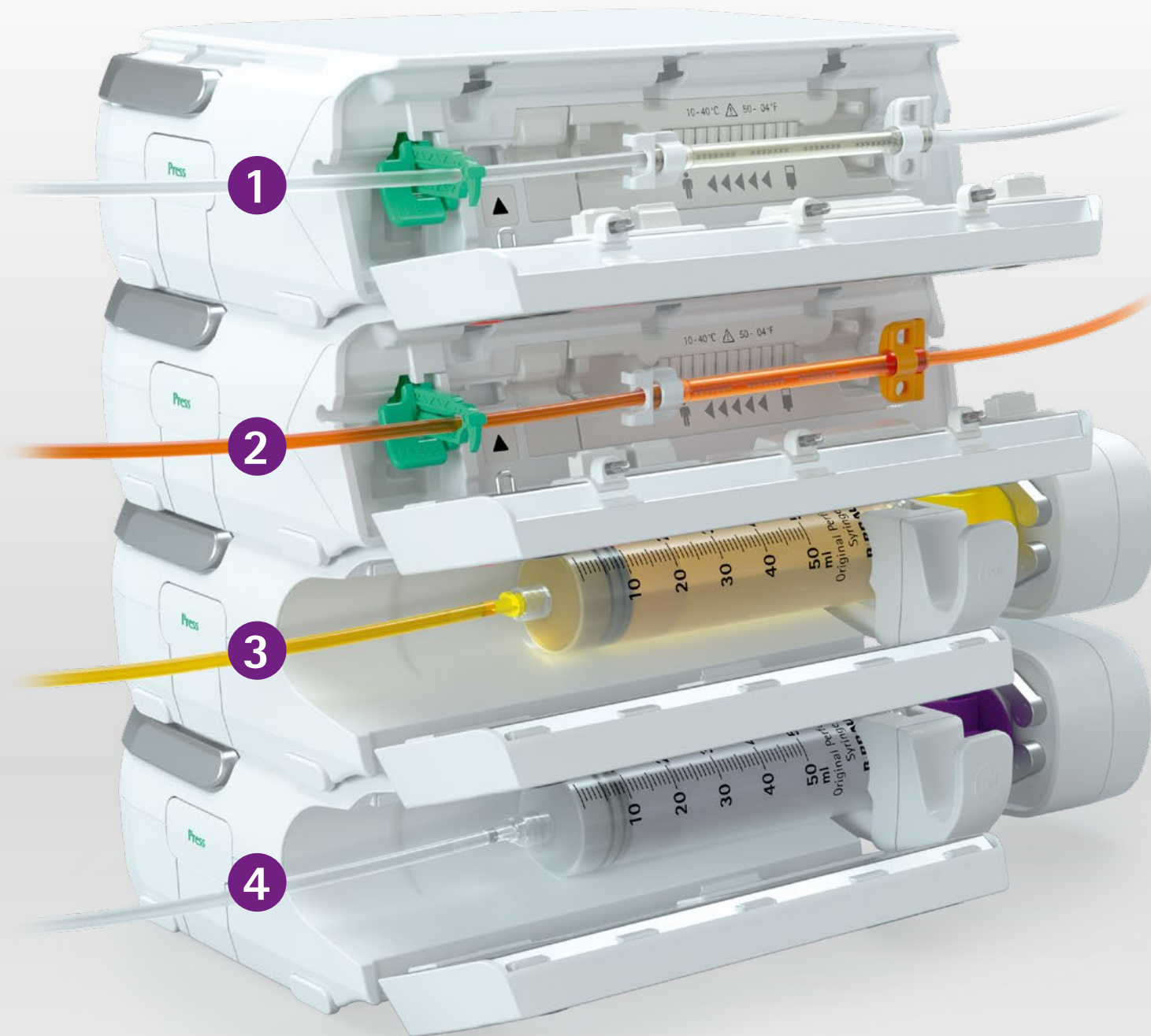
#userexperience

EVERYONE WILL FEEL LIKE THEY
HAVE GAINED NEW TERRAIN –
SPACE FOR THERAPY.

A WIDE RANGE OF THERAPIES
INCLUDING DEDICATED DISPOSABLES

① Standard
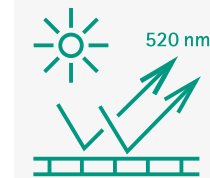INFUSION THERAPY,
TCI, TIVA

② Light protected
PHOTOSENSITIVE
MEDICATION

③ NRFit®
PAIN THERAPY

④ ENFit®
NUTRITION THERAPY

SAFESET – AIRSTOP
The unique filter membrane at the bottom of the drip chamber prevents air from the container from entering the connection line and ensures the line cannot run empty – thus leading to less disconnection of lines.

LIGHT PROTECTED
Increased security through completely light-protected products, which supports the early detection of air bubbles and particles.

520 nm

NRFIT®
More safety in the area of regional anesthesia to avoid risks of mis-connections between neuraxial and intravenous application. Guidance by connector design and color coding.

NRFit®

ENFIT®
More safety in the area of enteral feeding to avoid risks of misconnections. Guidance by connector design and color coding.

ENFit®

DEDICATED THERAPIES, DEDICATED DISPOSABLES.

The dedicated disposables cover the full range of different therapies like standard-, light-protected-, transfusion-, pain- and antibiotic-therapy, closed systems for oncology, and disposables for enteral nutrition.

With the Original Perfusor® syringes, B. Braun offers three-part disposable syringes that have an excellent sliding performance and add the excellent delivery characteristics of the Space^plus Perfusor®.

Additionally, the Original Perfusor® lines provide the option of color-coding to more quickly identify highly potent drugs and to reduce the risk of confusion.
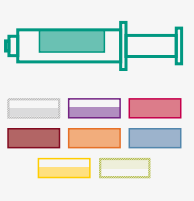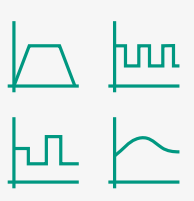
EVEN MORE PERFORMANCE
EVEN MORE SPACE

DOSEGUARD™ – THE SAFER, THE BETTER

DoseGuard™ reduces the risk of medication errors by adding safety limits to therapies.

DRUG COLOR CODING

Space^plus^ offers multiple and individual drug color codes to support safety at first glance.

VARIOUS THERAPY MODES

Space^plus^ offers a variety of therapy modes for infusion, pain- and nutrition therapies. For hospital-wide usage - no matter where!

Space^plus^ DrugLibrary Manager

Manage medication data centrally to configure your drug library according to the care unit and patient-specific needs.
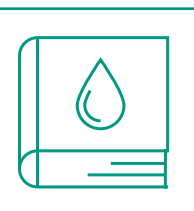
THINKING IN LARGER SCALES.

Space^plus^ covers a wide range of therapies for ADULTS, PEDIATRICS, AND NEONATES for the delivery of parenteral and enteral fluids. These routes include, but are not limited to, INTRAVENOUS, IRRIGATION/EPIDURAL, ENTERAL, AND PARENTERAL.

THERAPY MODES reduce nurse workloads and allow for the higher standardization of therapies within the respective limits in order to reduce medication error.

The system allows for SEAMLESS WORKFLOWS during intra- and interhospital transfer as well as during MR scans with the respective accessory.

A SCALABLE SOLUTION TO FIT YOUR NEEDS.

The smart ecosystem incorporates an exceptional overall package of leading technology and outstanding quality, sophisticated therapy options, interoperability, and efficient workflows.

OnlineSuite^{plus}

ONLINESUITE^{PLUS} IS THE GENERATION OF INNOVATIVE SOFTWARE APPLICATIONS FOR THE DIGITAL MANAGEMENT OF B. BRAUN INFUSION PUMPS IN HOSPITALS.

B. Braun Health Cloud

B. BRAUN HEALTH CLOUD PROVIDES DIRECT ACCESS TO THE LATEST SOFTWARE, E-LEARNINGS, AND FURTHER PRODUCT INFORMATION.

New User Interface

SHOWS WHAT'S MOST IMPORTANT, FOR A MORE EFFICIENT AND SWIFT OPERATION OF OUR INFUSION PUMPS.

Reliable Construction

THE DESIGN WITHSTANDS THE CHALLENGES OF EVERYDAY LIFE DUE TO ITS FLEXIBILITY – EVEN DURING TRANSPORT.

#spaceforyou

For the pragmatic. For the ones searching – and finding. For the many, not the few. For the early adopters, always striving for more.

For the nurses and the physicians. For inventors, creators, makers. And of course, for the patients.

For the digital natives.
For the experts.

For You

Spaceplus

LITERATURE

1. Van der Wal Y. A Datadriven Feasibility Study on Silent Pumps: Applying CRISP-DM in a Knowledge Discovery Process. Universiteit Utrecht 2017.

2. Biltoft J, Finnemann L. Clinical and financial effects of smart pump-electronic medical record interoperability at a hospital in a regional health system. Am J Health-Syst Pharm. 2018; 75(14):1064-8.

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6. Smart Medication Delivery Systems: Infusion Pumps Healthcare Human Factors Group; April 2009

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