

VELYS™ Digital Surgery Information Sheet

Orthopaedics is evolving, with increasing patient demand, higher expectations, and an unrelenting focus on driving efficiencies in costs, time, and resources. There is significant opportunity to address unmet needs before, during, and after surgery to better enable orthopaedic care teams and enhance patient outcomes. Some of these current challenges include:

- Unmanaged patient expectations and dissatisfaction
- Complex and highly subjective patient selection
- Limited use of pre-operative personalized surgical planning, potentially leading to variability in outcomes
- Intra-operative variability including surgeon performance, workflows, and delivery systems
- Limited post-operative follow-up
- Lack of data capture and connectivity to inform the complete patient experience and optimize for the future

DePuy Synthes, The Orthopaedics Company of Johnson & Johnson, believes that disruptive technology innovation can address these opportunities and more, both inside and outside of the operating room (OR). With the **VELYS™ Digital Surgery** Platform, DePuy Synthes will leverage advanced technology and connected intelligence, in conjunction with its clinically backed portfolio of implants, to advance the future of orthopaedic care, improve surgery, and enhance patient outcomes and satisfaction.

About VELYS Digital Surgery

VELYS Digital Surgery is a platform of connected technologies powered by data insights and designed to elevate the orthopaedic experience for patients, surgeons, and care teams – before, during and after surgery.

VELYS Digital Surgery Solutions aim to advance patient outcomes and optimize efficiencies by delivering:

- Greater insights for real-time decision making,
- Precision and consistency,
- And a more personalized care experience.

Our vision is to create an intelligent, end to end system that becomes even smarter over time by continuously capturing data, generating insights and informing the surgical approach in real-time to optimize outcomes.



VELYS Digital Surgery Solutions

Today, VELYS Digital Surgery includes the following solutions to support the care continuum in joint reconstruction:

- **VELYS™ Insights**

VELYS Insights is an integrated clinical support solution to coordinate care and guide patients. It aims to connect care teams to real-time, patient-specific data to inform clinical decisions from pre-op to post-op. VELYS Insights offers two key capabilities: **Care Coordination** and **Patient Path Management**.

- Care Coordination is used by care teams to enable real-time coordination between the doctor's office and the operating room (OR) team to help improve how surgery is managed in the most efficient way possible.
- Patient Path Management helps care teams educate, support, communicate, and remotely monitor patients' progress using the **VELYS Patient Path** mobile app during their knee, hip or shoulder replacement journey. Through the VELYS Patient Path mobile app, patients can:
 - Receive personalized action plans with smart reminders
 - Access education materials, including daily exercises to perform
 - Communicate directly with care teams about issues ranging from pain levels to how an incision is healing
 - Monitor progress and receive direct feedback

VELYS Patient Path is compatible with activity trackers, including FitBit and Apple's Health app, that collect valuable data in real time that clinicians can then review using VELYS Insights.

- **TRUMATCH® Personalized Solutions**

TRUMATCH® Personalized Solutions provides digital surgical planning and patient-specific instrumentation that is designed to personalize knee and shoulder implant positioning and procedure efficiency.

- **VELYS™ Hip Navigation**

VELYS Hip Navigation is non-invasive, next generation navigation with digital templating and intra-operative analysis for hip replacement surgery. The solution enables real-time decision making by providing surgeons with precise analysis of implant selection and positioning through easy-to-use, non-invasive computer navigation, presurgical digital templating and case planning. VELYS Hip Navigation provides actionable data designed to help increase accuracy, reduce OR time¹, and improve patient outcomes.

- **VELYS™ Robotic-Assisted Solution:**

The VELYS Robotic-Assisted Solution, designed for use with the ATTUNE® Total Knee System and its indications for use, is the latest addition to the VELYS Digital Surgery Platform. The VELYS Robotic-Assisted Solution is a first-of-its-kind table mounted solution, with an efficient design that integrates into any OR. The system adapts to the surgeon's workflow and is designed to give them the control they are used to and helps them execute accurate bony cuts.² It utilizes advanced planning capabilities, proprietary technology and a next-generation design to help surgeons to accurately resect bones that align and



position the implant relative to the soft-tissue during total knee replacement without the need for pre-operative imaging.

- **KINCISE™ Surgical Automated System**

The KINCISE™ Surgical Automated System is designed to improve precision and make total hip arthroplasty (THA) easier by potentially eliminating the need for the surgical mallet. During THA, the KINCISE System helps deliver constant and consistent energy, automating bone preparation, implant positioning and assembly, and reduces OR time³, while reducing surgeon fatigue.⁴

Over time, VELYs Digital Surgery will add new technologies to address the unmet needs in orthopaedics and will span across other DePuy Synthes platforms including Joint Reconstruction, Trauma, Craniomaxillofacial, Spine, and Sports Medicine.

For more information, visit www.VELYSDigitalSurgery.com.

About DePuy Synthes

DePuy Synthes, the Orthopaedics Company of Johnson & Johnson, provides one of the most comprehensive orthopaedics portfolios in the world that helps heal and restore movement for the millions of patients we serve. DePuy Synthes solutions, in specialties including joint reconstruction, trauma, extremities, craniomaxillofacial, spinal surgery and sports medicine, in addition to the VELYs™ Digital Surgery portfolio, are designed to advance patient care while delivering clinical and economic value to health care systems worldwide.

Building on our proud product innovation and legacy of industry firsts, we are reimagining the orthopaedic landscape with new advancements in medical technologies and digital surgery across the entire continuum of care to Keep People Moving today and tomorrow. For more information, visit www.depuysynthes.com.

1. Goodell PB, Kokubun B, Kollmorgen R. Presented at AAHKS, Dallas Nov 7-10th 2019
2. Doan G, Curtis P, Wyss J, Clary C. Resection Accuracy Improved during Robotic-Assisted Total Knee Arthroplasty – a Cadaveric Study. Internal Report 103720852.
3. Bhimani AA, Rizkalla JM, Peters Jr PC, Kitziger KJ, Schubert RD, Gladnick BP. Surgical Automation Reduces Operating Time While Maintaining Accuracy for Direct Anterior Total Hip Arthroplasty. Presented at AAHKS, Dallas Nov 7-10th 2019.
4. Surgical Tips and Pearls for Total Hip Arthroplasty by Charlie A. DeCook, M.D., Page 1, paragraph 1. November 2019