

HP and Go 4-D Modernize the Processes Used for Creating Custom Orthotics with Optimal Function and Comfort

By Chris Patten

In September 2018 **HP Inc.** announced a strategic alliance with **Go 4-D**, a 3D printed medical orthotics industry visionary, to modernize the process used to create custom orthotics.

As part of the alliance, Go 4-D will distribute **FitStation** powered by HP throughout the North American medical market. HP's FitStation platform combines 3D foot scanning with dynamic gait analysis to enable both orthotic recommendations and 3D printed custom orthotics, prescribed from each person's unique biomechanics. This will enable Go 4-D to manufacture comfortable, precise custom orthotics using cutting-edge HP Jet Fusion 3D printing systems.

Despite advances in technology and innovative manufacturing methods, custom orthotic manufacturing has not changed much since the 1950's. The most common method still in use today is vacuum-forming plastic over a positive of the foot. This decades-old subjective manufacturing method takes no dynamic measurements into the design of the device and the materials used through subtractive manufacturing limit the functional capabilities.

The FitStation platform utilizes specialized hardware and software components to capture an individual's unique 3D foot scan, dynamic gait and pressure data. This data is automatically analyzed to provide manufacturing instructions for 3D printed custom foot orthotics.

"Our goal is to provide healthcare practitioners with the ability to precisely prescribe a true custom 3D printed product for optimal biomechanical function and comfort," said Paul Linton, Chief Executive Officer, Go 4-D. "FitStation is becoming a disruptive enabler by solving a critical need for modernizing a new era for custom orthotics used for work, sports and daily activities."

Go 4-D Leads the Custom Orthotic Industry into the Future

The Go 4-D leadership team has decades of experience in the custom orthotic industry and understands the pitfalls of manual, subjective, error-prone manufacturing that has dominated the industry for more than five decades. Go 4-D has eliminated these errors by combining the 3D and dynamic quantitative data from FitStation, along with the practitioner's clinical expertise. The practitioner can now design a more precise orthotic that is 3D printed with the utmost accuracy, specificity and design features that have never been possible under traditional manufacturing methods.

"There is a distressing need for custom orthotics that are made right the first time and are not thick or bulky and can fit the patients' footwear," said Dr. Lori Yarrow, Chief Customer



Officer, Go 4-D. "We are revolutionizing the orthotic business for clinics, and HP's FitStation platform will allow us to capture precise analytical data

and manufacture an orthotic that provides precise correction in a lightweight design that fits in most shoes. This data will be used to create exciting products that will help patients' feet function properly and alleviate pain or discomfort."

Precise diagnostic customization is crucial to correct fitting orthotics. With biometric scanning, the foot specialist obtains exact information about the pressure and timing of each area of the foot and an exact 3D representation of the foot. This information allows for complete customization directly into the lattice shell of each orthotic. The custom 3D printed orthotic can provide segmental and

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directional stiffness and incorporate various additions and modifications directly into the printed product optimizing their ability to work and reduce a patient's discomfort.

"The new 3D printed custom orthotics that will be manufactured using 3D software from the Materialise Software Backbone and HP Jet Fusion 3D printing systems at Flowbuilt Manufacturing are based on the thousands of data points that precisely capture the shape and movement of each foot," said Chris Patten, Chief Technology Officer, Go 4-D. "The unique biomechanical lattice-design of the Go 4-D 3D printed custom orthotic allows the foot specialist to design with more precision than ever before. With 3D printing, custom orthotics offer flexibility and segmental control, exactly where the patient needs it."

About Go 4-D Inc.

Go 4-D offers a cloud-based, end-to-end ecosystem that integrates foot scanning, ordering and 3D printing predicated on evidence-based patient care. *More information is available at: <https://go4-d.com/> or click here.*

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