What prototyping is faster ever?

18 algorithm program

if ... for knits than before?

minutes design knit

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The DITF (German Institute for Textile and Fiber Research) as the largest European textile research center and the H. STOLL AG & Co. KG as the world-renowned flat knitting machine manufacturer present a fully automated production and development process out of a digitalized 3D CAD model.

The combination of STOLL 3D flat knitting technology, the STOLL knitelligence® software package and the DITF automation tool for processing 3D CAD models to 2D knitting data will influence future product development and production processes.

The DITF is renowned for its research competence and pioneering role for industry 4.0 in the textile supply chain. STOLL provides state of the art 3D knitting technology and services for designers, product developers and textile manufacturers.

Together, the DITF and STOLL create fully automated and digital integrated process solutions as a milestone for the textile and flat knitting industry 4.0. The product portfolio comprises 3D knitting machines and a huge software package called "knitelligence®" which together enables a broad spectrum of developments and a modern, efficient process planning and production environment STOLL knitelligence®.

The product portfolio comprises exports to more than 70 countries all over the world. STOLL, the world-renowned enterprise was founded in 1873, has about 1,000 employees worldwide and prepared M1plus® files of fabrics for fashion as well as high quality knitting production of technical applications. With STOLL knitelligence®, customers can take advantage of efficient process planning and machine management.

"knitelligence®" pattern software for the creation of knitting programs.

Automated order distribution and production
- Prioritized and capacity related dispatching of knitting orders (PPS)
- Automated production by the Auto Production Mode (APM)

A new tool for automated knitting after receiving knitting orders via the customer network.

Digital shoe last illustration
- CAD-file from physical model, CAD model
- Integration of loop parameters and specific knitting operations

Digital computation - 3D to 2D
- Segmentation according geometric requirements
- Output: M1plus® and STOLL-artwork® compliant knitting file (jacquard)

Design integration with STOLL-artwork®
- Knitting file/bitmap as a design base
- Automated consideration of knitting requirements (measurements, colors, machine)

Automated knitting program creation
- Input: designed pattern of STOLL-artwork®, prepared M1plus® files
- Output: knitting program for automated order distribution with PPS

Automated knitting program creation
- Design - Integration of loop parameters and specific knitting operations
- Automated production by the Auto Production Mode (APM)

Generating PPS (Production Planning System) files for production planning and machine management.

PPS (Production Planning System) - software tool for production planning and machine management.

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• Output: knitting program for automated order distribution with PPS

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STOLL knitelligence® TOOLS
- M1plus® - pattern software for the creation of knitting programs.
- STOLL-artwork® - knitting support in Adobe Photoshop® for better communication between designers and technicians.
- STOLL-autocreate® - automation tool for creating knitting programs without manual intervention.
- PPS (Production Planning System) - software tool for production planning and machine management.
- APM (Auto Production Mode) - tool for an automated knitting process after receiving knitting orders via the customer network.