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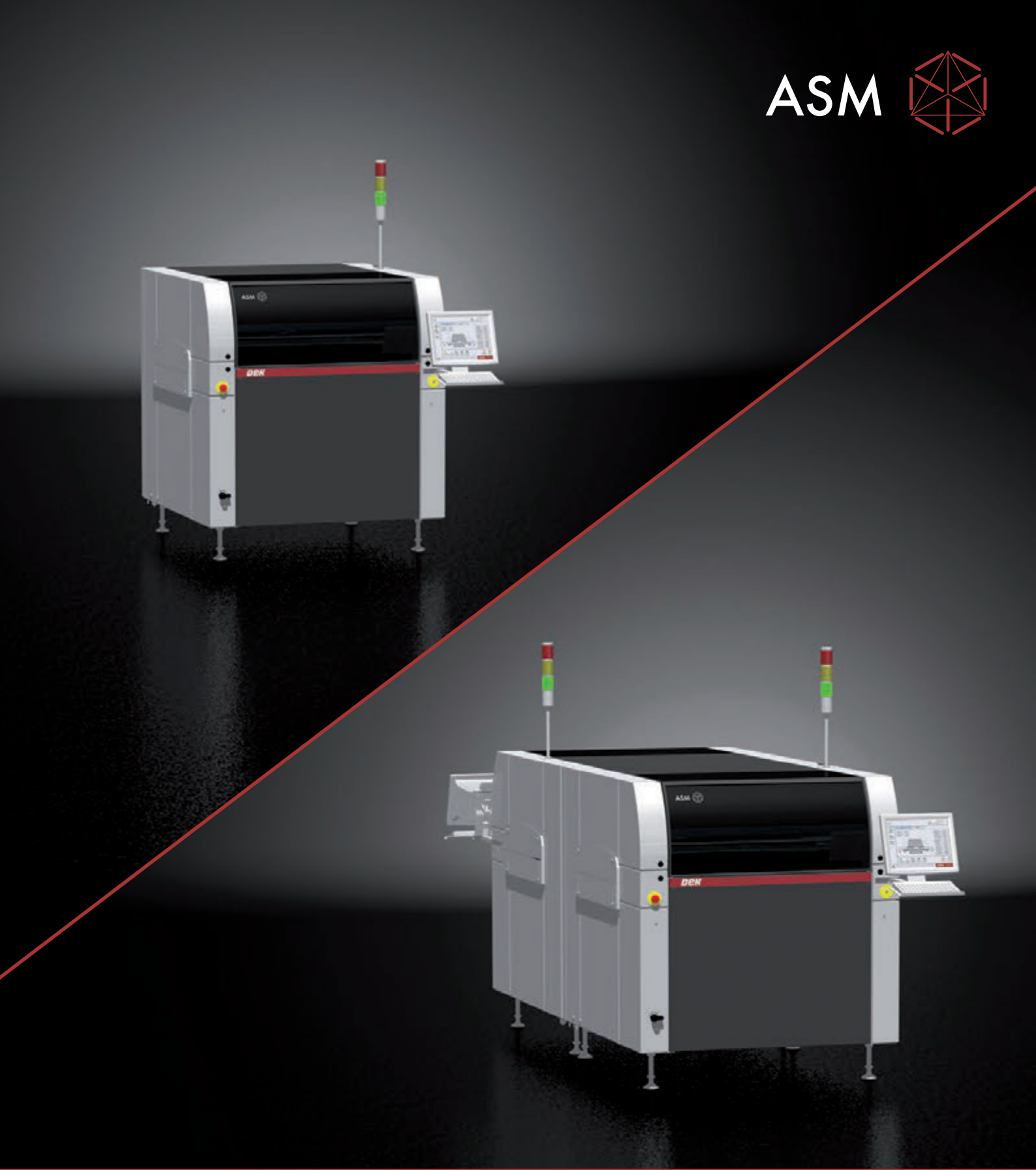

DEK

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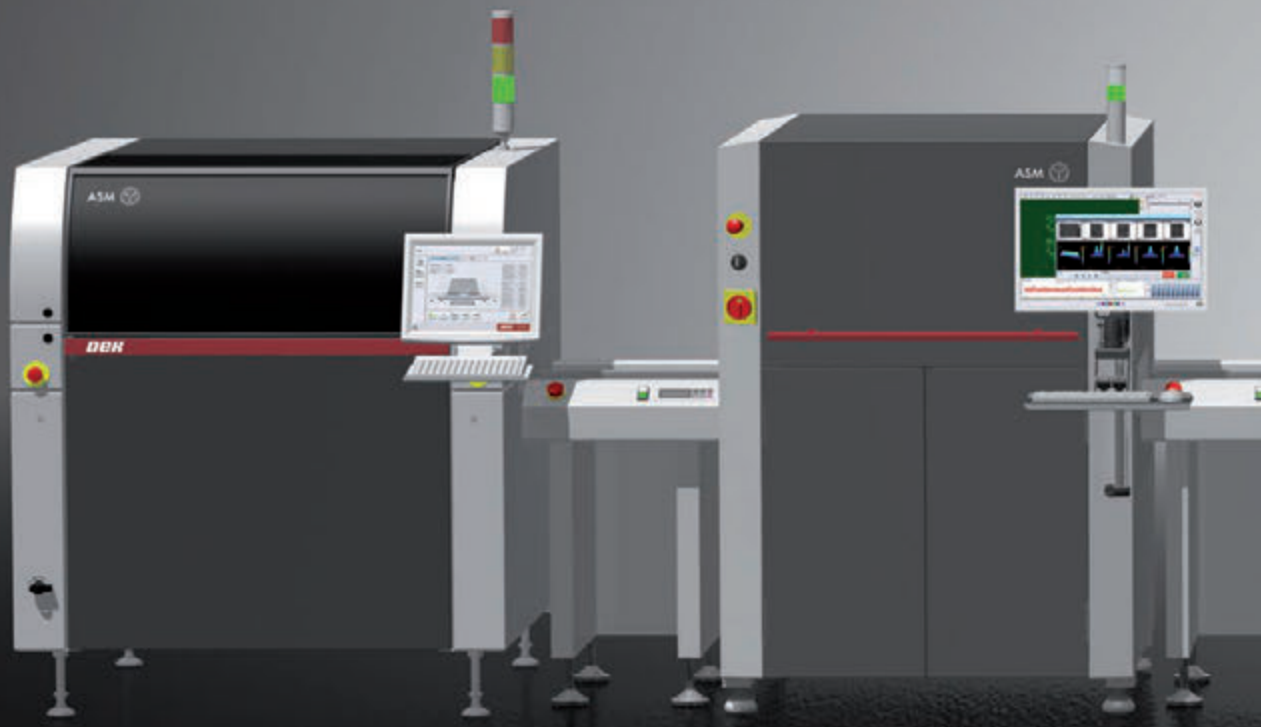
DEK NeoHorizon iX platform

More reliability and efficiency for future-proof printing



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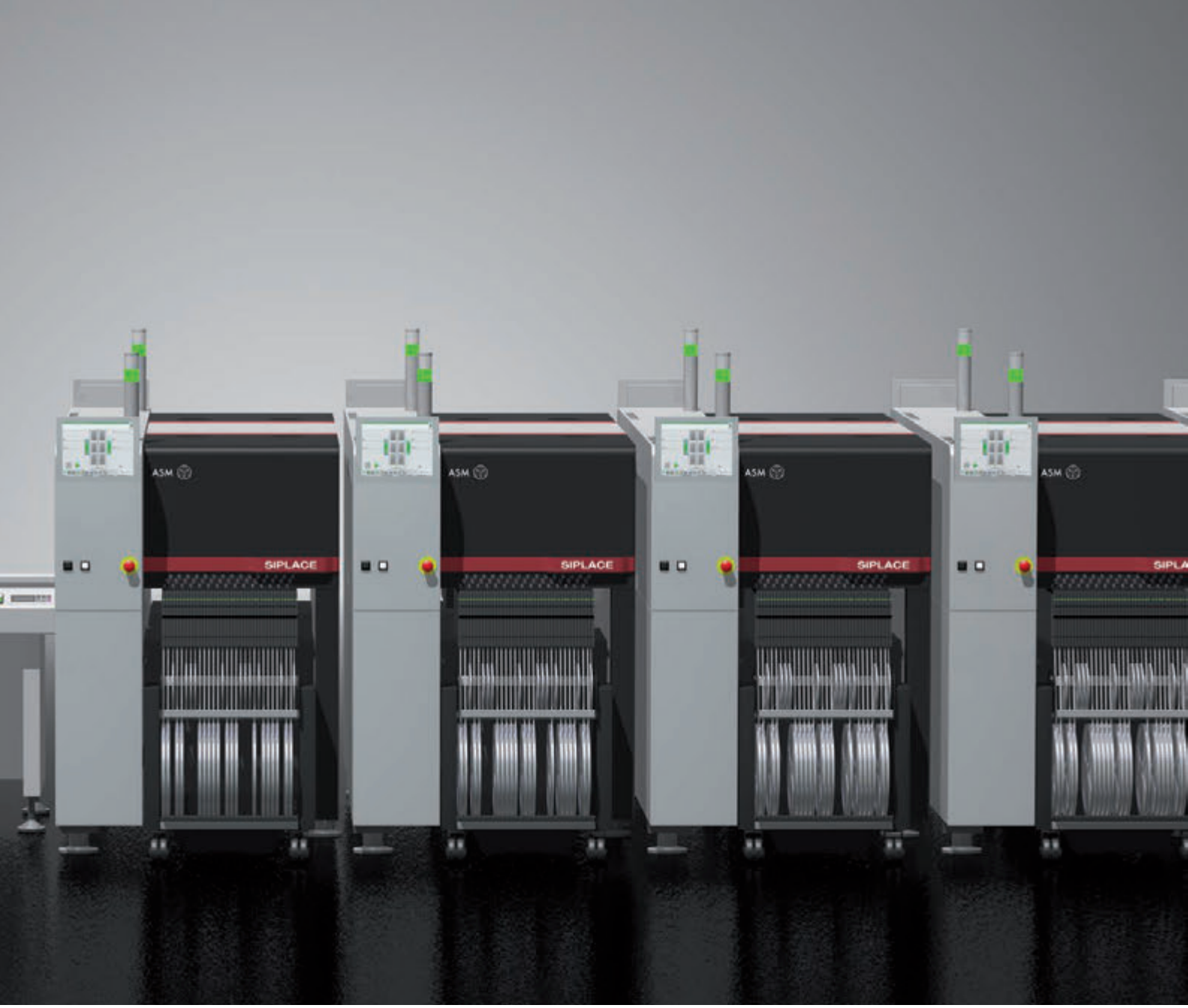


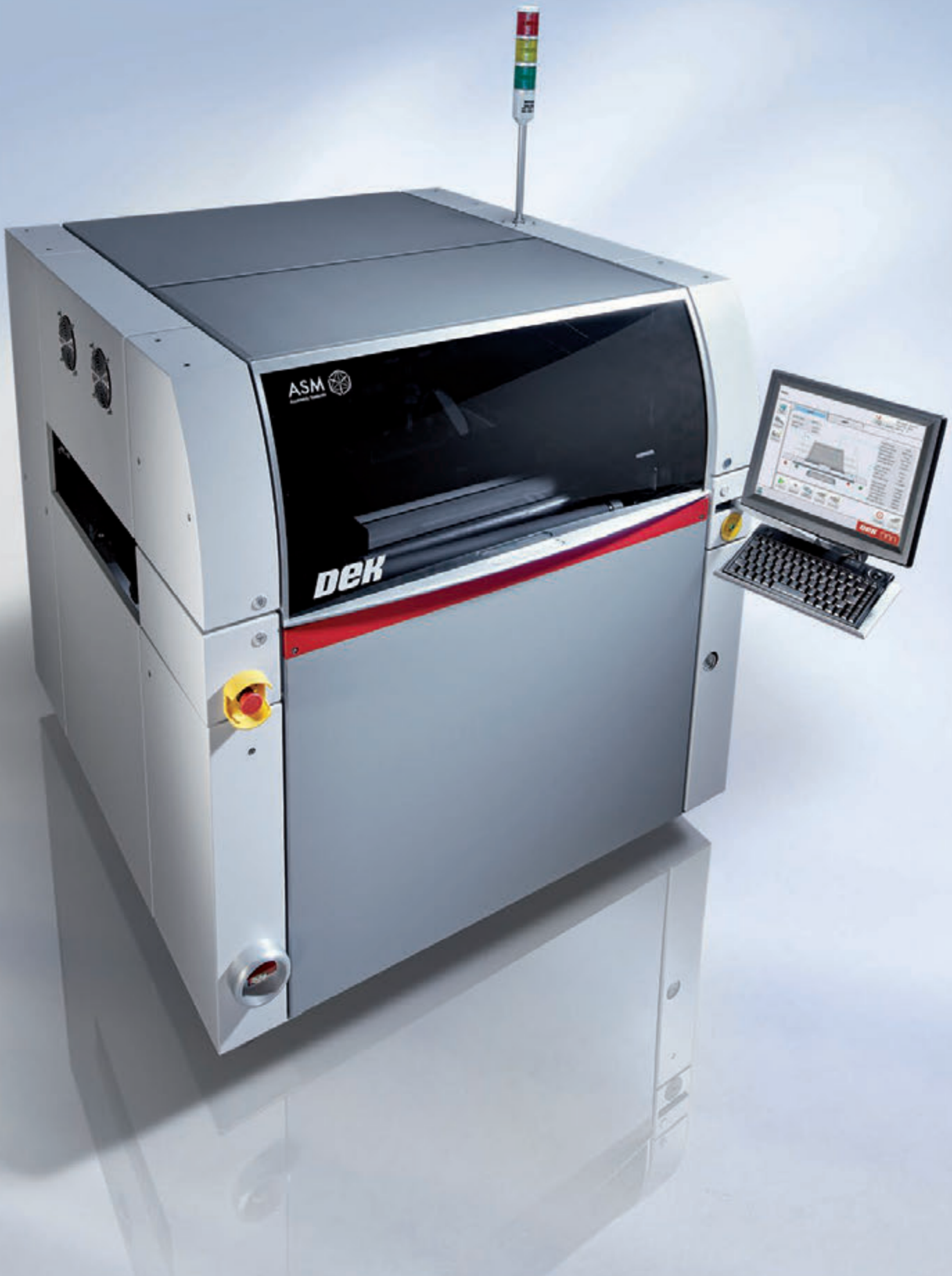
Flexible configuration, reliable process

Important decisions are often made at the beginning, and your SMT line is no exception. Your screen printer plays a critical role for quality, productivity and yield.

With the DEK NeoHorizon iX you can't go wrong. With their advanced features, the new models provide a powerful and highly accurate solution for any application. In addition, the DEK NeoHorizon Back-to-Back advances the DEK concept of an ingeniously simple dual-track solution that can be turned into two single-track machines at any time. You protect your investment and can respond to changes when they occur.

The modular structure of the DEK NeoHorizon iX gives you total flexibility. Improve your process inspection with the trailblazing DEK HawkEye technology. Reduce the time and cost of manual assists with DEK ProFlow ATx printheads or automatic DEK paste dispensers. Minimize your cleaning time and material consumption with the new, highly efficient DEK Cyclone Duo understencil cleaning system. DEK innovations constantly push the limits in quality and productivity. At the same time, the new printers feature advanced integration capabilities, making them the future-proof solution for modern smart-factory concepts.

ASM combines all this with custom-tailored services: Training, maintenance, process optimization,stencils, clamping systems ... with ASM's printing specialists, you have the global experts for printing and SMT processes at your side:
Together #1.


ASM
DEK

DEK Horizon iX platform: The solid foundation for your success

The DEK NeoHorizon iX shines with more than new design. It's modular interior is also much improved and highly reliable. Whether in high-mix contract manufacturing or high-volume applications with high throughput requirements – the DEK NeoHorizon iX is the right printing platform, and the ASM team is the right partner for you.

Benchmark for accuracy

The DEK NeoHorizon iX platform is based on an exceptionally stable frame design. With its torsional rigidity and high intrinsic resonance frequency, the machine's frame provides the foundation for longevity and long-lasting accuracy. With its advanced controllers and bus systems, the DEK NeoHorizon iX achieves a system alignment capability of +/- 20 µm @ 2.0 C_{mk} (±6 Sigma).

The frame provides lots of space and the bus system a wide range of interfaces for basic components like precision drives, digital camera modules and high-precision guides and slides, as well as for many productivity-enhancing options: the DEK Productivity Tools. In short, it is the perfect framework for your individual printing solution.

State-of-the-art software: DEK Instinctiv

Experience how intuitive modern machine interfaces can be with DEK Instinctiv software. With its touchscreen, keyboard and trackball operation, graphical interfaces, multiple languages and integrated video-based help, the DEK Instinctiv software supports the easy, quick and error-free operation of your NeoHorizon iX printer.

Do you want to add more options to your DEK NeoHorizon? With ISCAN (Intelligent Scalable Area Network), the new configuration is scanned with just a few clicks and additional performance is available. And thanks to its interfaces, the DEK NeoHorizon can fine-tune its printing process based on data imported from modern SPI systems.

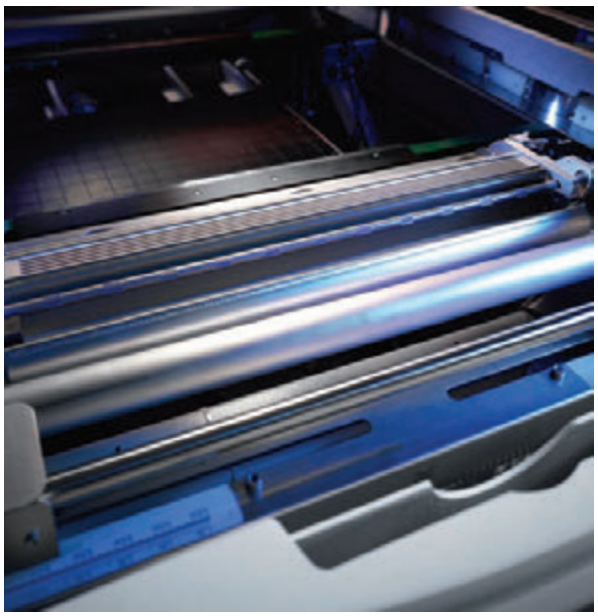
Service and solid process expertise

Stencil printing is a critical and highly demanding process that requires experienced partners in addition to good hardware and software. With ASM you have competent experts at your side for selecting and implementing your printing solution, training your employees, optimizing your processes, producing high-quality stencils, and supporting all of this with excellent services.

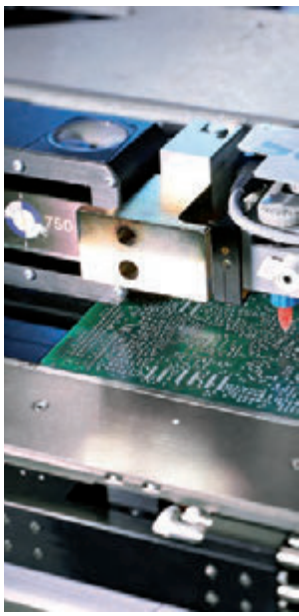
Complex PCBs also require thoroughly coordinated processes. Our Centers of Competence have the experts and the knowledge you need for all process steps along the entire production line.

DEK Productivity Tools:
Everything you need for your printing solution

DEK NeoHorizon Back-to-Back dual-track solution



High-speed understencil cleaning: DEK Cyclone



Perfect dispensing:
DEK Stinger

The right configuration for every job

High-speed production, high-mix runs of small lots, pin-in-paste, ultra-fine apertures for super-small components, stepped stencils, PCBs with unusual substrates, many different paste types – no matter what your production requirements are and what processes you use: the DEK NeoHorizon iX platform always accommodates the right configuration for your printing process.

Think beyond your current challenges. With the modular DEK NeoHorizon platform you can easily add DEK Productivity Tools in standalone machines or in our innovative DEK NeoHorizon Back-to-Back dual-lane solution.

B2B setup: Flexible on two tracks

With its three sections, the DEK High-Throughput 3-Segments Conveyor lets you move circuit boards into and out of the printing area simultaneously for even shorter cycle times.

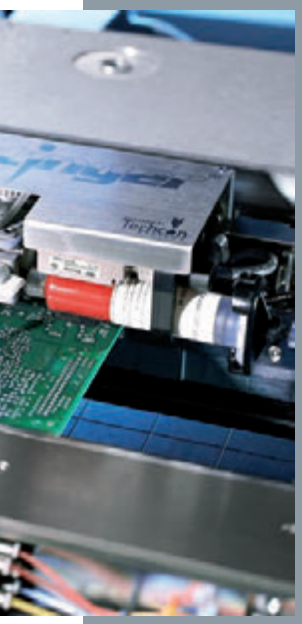
DEK NeoHorizon iX printers can be operated and maintained totally from the front. The DEK NeoHorizon Back-to-Back setup makes for a uniquely flexible dual-track solution.

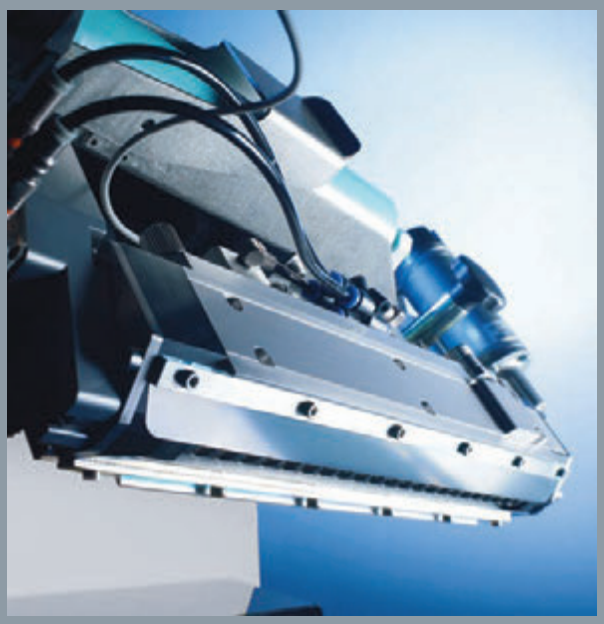
Dual-lane for twice the performance:
- Both units remain separately controllable, for example to run a different product on each track
- The units can be split up again at any time
- Full-size printing area

Faster cleaning, more throughput

The DEK NeoHorizon iX offers two modes for automatic understencil cleaning: the new IUSC, which is based on the established blue cleaning system, and the award-winning and much improved DEK Cyclone high-speed cleaning system. In the new DEK Cyclone Duo version, the fully configurable DEK Cyclone (wet, vacuum, dry, oscillation) requires just one cleaning cycle, which cuts the time and materials needed by up to 50 percent. And the cleaning fabric can be easily replaced via a cartridge.

Both cleaning systems are controlled via the DEK Instinctiv software. In addition, the cleaning cycles can be invoked as needed by the operator after the HawkEye inspection or via the ProDEK option by external SPI systems.





DEK ProFlow ATx enclosed printhead system

Flexible tooling with DEK Grid-Lok

Our most important Productivity Tools at a glance:

- **Conveyors – Minimize your cycle times**
  - DEK High-Throughput Conveyor
  - DEK NeoHorizon Back-to-Back setup (high-mix dual-track conveyor)
- **Understencil cleaning – Cut cleaning times in half**
  - DEK Cyclone and DEK Cyclone Duo
  - IUSC understencil cleaning with replaceable cleaning bar
- **Dispensing – Optimize the paste application**
  - DEK Paste Roll Height Monitor
  - DEK Automatic Paste Dispenser
  - DEK Stinger (automatic adhesive or solder paste dispensing on the PCB)
- **Enclosed printhead – Maximum reliability**
  - DEK ProFlow ATx (innovative printhead technology for demanding applications)
- **Inspection – Optimize your print quality**
  - DEK HawkEye 750
  - DEK HawkEye 1700
  - DEK ProDEK (closed-loop interface to external SPI systems)
- **Additional tools**
  - DEK Grid-Lok (automatic board support)
  - DEK APC clamping system
    Freely programmable top-down and lateral (snugger) clamping for improved fastening for close-to-the-edge printing

Printing:
Maximize your process reliability

Temperature, humidity, paste preparation, squeegee types, idle time – the process window for optimal printing results is small and depends on many factors. From the solder paste sensor to the enclosed DEK ProFlow ATx head – the DEK Horizon iX platform offers the level of process reliability you want and need. The result: more quality and fewer assists.

DEK Paste Roll Height Monitor

The DEK Paste Roll Height Monitor is an additional option with a big impact. It issues a warning when the paste quantity falls below a set minimum and threatens to negatively affect the printing quality. The process is then stopped until the additional paste is applied manually or via the DEK Automatic Paste Dispensing (APD) system.

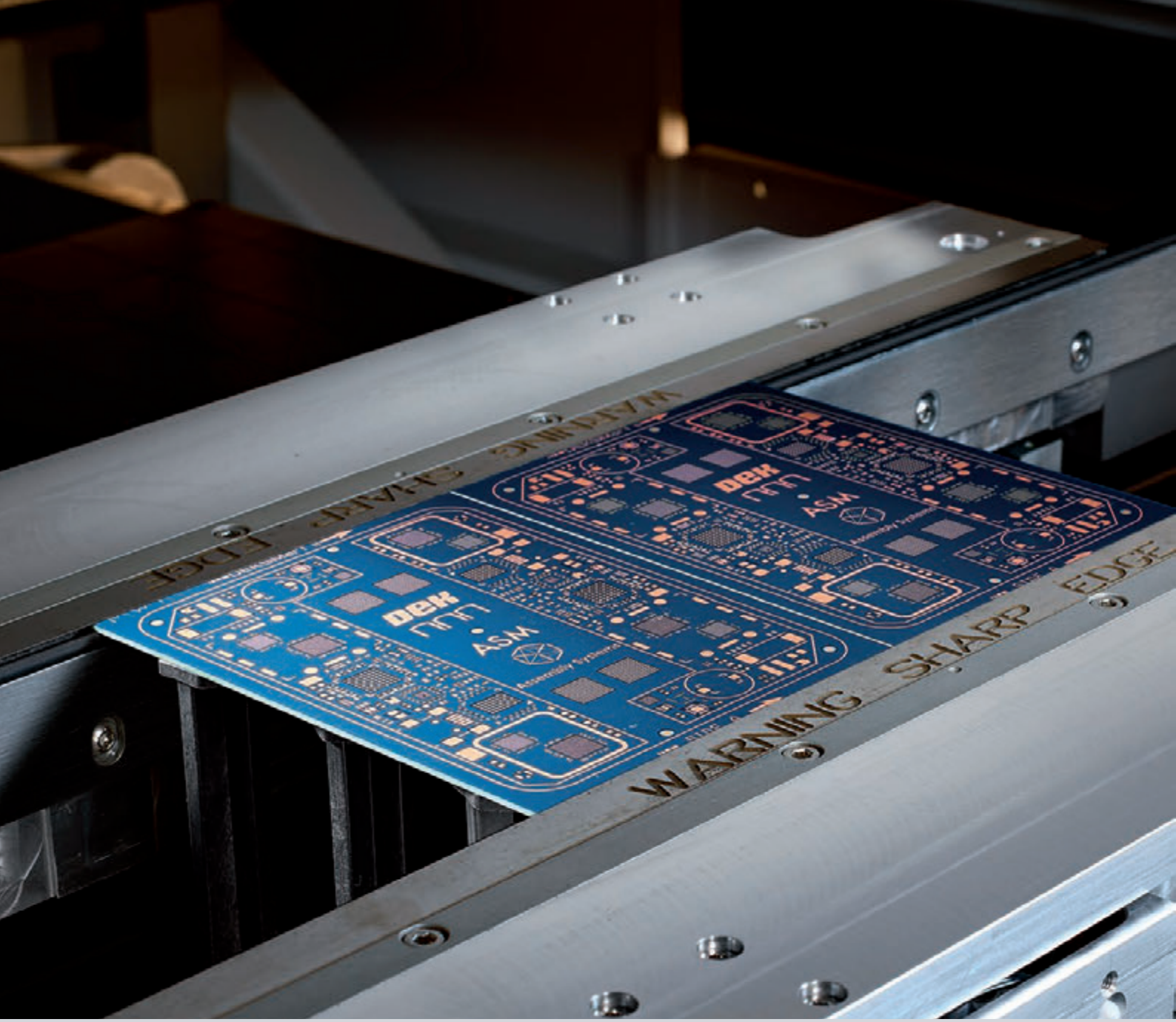
Print media dispenser:
DEK Automatic Paste Dispenser

The DEK APD is the alternative to manual paste application. In interaction with the Paste Roll Height Monitor, it controls the precise application of the printing medium to increase quality, allow for faster product changeovers, and reduce the number of manual assists.

Enclosed print head system
DEK ProFlow ATx

DEK has revolutionized the printing process with the introduction of its enclosed ProFlow printhead. For the first time, most variables can be controlled separately for further printing process improvements.

The ProFlow ATx in the DEK NeoHorizon iX platform is the latest generation of this trailblazing technology. Your benefits: fewer manual assists, maximum process reliability, significantly accelerated product changeovers and maximum flexibility with regard to pastes and applications – also for pin-in-paste processes.



The new DEK All Purpose Clamping (APC) system
Total freedom in PCB clamping

Top-down only, lateral only or a combination of both: our new DEK APC system leaves all options open. It keeps even thick and slanted boards reliability in place. Our innovative clamping system reliably adjusts and holds securely in place.

And best of all, the clamps retract to the board's top edge, allowing you to print extremely close to the edge.

The new DEK APC is freely configurable. The clamping force can be set for each specific product and monitored by the system.

The DEK APC is further proof the ASM is your competent, reliable and highly innovative partner for the printing process – yesterday, today and tomorrow.

Inspection solutions:
Verify results quickly and reliably

DEK HawkEye

The DEK NeoHorizon iX platform extends its modular approach to verification and inspection. Users have access to various internal and external solutions for checking the printing results, preventing the placement of misprinted circuit boards, and continuously optimizing the printing results.

DEK HawkEye

To quickly verify the printing results in the printer itself, our specialists have developed the extremely powerful, camera-based DEK HawkEye for verifying solder paste deposits. Freely configurable, DEK HawkEye can optically verify up to 100 percent of the paste deposits and instantly reject any faulty boards.

Two systems are available: DEK HawkEye 750 and DEK HawkEye 1700. The DEK HawkEye 1700 delivers a three times larger verification window for the reliable inline control of large circuit boards and multi-cluster boards.

DEK ProDEK

DEK ProDEK is our interface for integrating external SPI solutions. With ProDEK, you can optimize the alignment of the Horizon iX and its cleaning intervals based on a closed control loop that includes the SPI solution and statistical processes. The SPI solution can even trigger a cleaning cycle directly when needed.

Results speak for themselves

Talk with our experts about your applications, your printing needs, and the configuration options for the DEK NeoHorizon iX that work best for you. We look forward to working with you to identify the solution that best fits your requirements – from the modular printing platform to DEK Productivity Tools to services in the areas of consumables, stencil manufacturing and process consulting. Our ultimate goal is to provide you with the best possible printing process in your production.

DEK NeoHorizon iX platform at a glance

	DEK NeoHorizon 03iX	DEK NeoHorizon 01iX
Standard configuration	DEK NeoHorizon 03iX	DEK NeoHorizon 01iX
Machine alignment accuracy	+/- 20 µm @ 2.0 C_{mk} (±6 Sigma)	+/- 15 µm @ 2.0 C_{mk} (±6 Sigma)
Standard cycle time	8 seconds + process	6.5 seconds + process
Maximum printing surface	510 mm (X) × 508,5 mm (Y)	510 mm (X) × 508.5 mm (Y)
User interface	Touchscreen, keyboard and trackball, DEK Instinctiv V9 software	Touchscreen, keyboard and trackball, DEK Instinctiv V9 software
Camera	DEK HawkEye 750 digital camera with 2-way LED illumination	DEK HawkEye 1700 digital camera with 2-way LED illumination
Squeegee adjustment	Motorized with squeegee pressure feedback	Motorized with squeegee pressure feedback
Stencil loading	Semi-automatic,incl. squeegee drip catcher	Automatic, incl. squeegee drip catcher
Stencil alignment	Motorized (actuators); aligned on X- and Y-axis and rotation	Motorized (actuators); aligned in X- and Y-axis and rotation
DEK ProFlow	Optional	Optional
Understencil cleaning	DEK IUSC 300 mm/400 mm/520 mm	DEK Cyclone 300 mm/400 mm/515 mm
Technical documentation	Printed documents: User manual, installation instructions, circuit diagrams. Technical instructions and videos that explain all operating steps are preinstalled.	
Compressed air supply	5-8 bar at ~5 litres/minute	
Power supply	100 Volts to 240 Volts ±10 %. Single phase 50/60 Hz	
Weight	Approx. 690 kg depending on selected options	

* The machine and repeat accuracy qualification will be conducted using production-typical process variables.
Machine dimensions in millimeters

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