UV. LED.
Innovations.

IST

300
EMPLOYEES AT THE
IST METZ GMBH & CO. KG

10
SSU'S
WORLDWIDE

>15.000
MACHINES EQUIPPED

FOUNDING YEAR
1977

COMPANY FOUNDER († 2014)
GERHARD METZ

>90.000.000 €
SALES VOLUME OF THE IST-GROUP

>100.000
LIGHT SOURCES INSTALLED

MANAGING DIRECTOR
TIM STERBAK

>500
EMPLOYEES AT THE
IST METZ GROUP

>90%
EXPORTS

IST METZ GmbH & Co. KG is an internationally active, medium-sized mechanical engineering company based in Nürtingen in southern Germany with around 500 employees worldwide. Our network of partners and subsidiaries around the world stands for the highest technological standards and reliable service - uncomplicated and close at hand.

Thanks to our experience and the large product portfolio of high-performance UV lamp and UV LED systems, warm-air infrared drying systems and excimer technology, we have earned the long-term trust of our customers and partners. We are proud of this, because we have been living the motto "more than UV" for half a century. In more than 45 years, we have always managed to capture the trends of the times and still see ourselves as a modern family business.

WE LOVE
WHAT WE DO

PRODUCT PORTFOLIO:

> UV lamp systems
> LED systems
> Excimer
> UV measuring devices
> Warm air/IR dryers
> Laboratory tests
> Training courses

INDUSTRIES:

> Printing
> Converting
> Automotive
> Healthcare
> Cosmetics
> Steel
> Flooring
> Telecommunications
> Adhesives
> Electronics

MATERIALS:

> Inks
> Varnishes
> Silicones
> Adhesives
> Resins
> and much more

IST CAMPUS SERVICES:

> Testing facilities at the IST Campus:
> UVC-, UVA-LED
> Hg-, Fe-, GaIn-lamps
> Ozone-free lamps
> FREEcure
> Excimer 172 nm and 222 nm
> Inertisation
> Water cooling, air cooling
> Conveyor belt
> Corona pre-treatment
> Drying oven

ANALYTICS:

> FTIR measurement
> Surface tension
> 3D microscopy
> Photo-DSC
> Compression and tensile testing

PRODUCTION SITES:

> Germany
> UK
> China

Tim Sterbak, CEO
IST METZ GmbH & Co. KG

We have been inspiring for more than 45 years, promote success and build trust

Our passion makes us experts in UV curing. This Knowhow has brought us from a family business in Nürtingen to a global market leader and pioneering partner in UV. Customers around the world appreciate our reliability and the uniqueness of our company philosophy. So that this remains the case, more than 500 employees around the globe work towards our common goal: the next generation of UV.

Science and experience go hand in hand on our UV technology campus

Because everything revolves around UV light for us, we have created a new generation of understanding science and technology in our research and development laboratory.
Because where our own ideas are born, our customers also have the opportunity to experience first-hand what we stand for and what we can do.
In our in-house analytical laboratory, the results can then be categorised and adjusted - for a direct route to an optimum product. We are proud to have created this inspiring and impressive place where the customers' visions are brought to life.
That teamwok and Swabian Mentality is something we still live with enthusiasm and are working with élan and passion on the next generation of UV curing.
Based on this, we develop and impart expertise and always think one step ahead. UV Technology Campus means experiencing UV and making it fit for the future.

Old values on a new path

Even after more than 45 years: People and the customer take centre stage. On this value-creating basis, we go down new paths together and thus rely on a secure and global unit: from the Nürtingen headquarters via our sales and service units around the world to the end customer. With a positive outlook, we strive towards a future based on trust and cooperation.

"IST has been supporting the IVO project for more than 15 years (local inclusion). Together with the german "Samariter Stiftung" IST METZ supports people with mental health problems to find their way back into the world of work."

LED or UV? Or both?

In lighting technology LEDs have established themselves. In the printing industry, too, the discussion about the advantages of LED UV technology compared to systems with UV lamps, while in other industries the technology is still in its infancy.
However, it is already clear today that both UV lamp technology as well as UV LED technology offer individual advantages, which must be taken into account when choosing a UV System. UV lamp systems are mainly used for print jobs with very high and versatile requirements. This involves highly finished products such as packaging in the luxury segment or print jobs that place high safety requirements for production, such as food packaging.

This is a technology that has been established and proven over decades and for which a wide range of photoinitiators, inks and varnishes are available on the market today. There is also a wide range of differently doped UV lamps available, enabling optimisation for the respective application. The systems are particularly easy to maintain, for example the UV lamp and reflector can be replaced in a few simple steps.

LED UV technology currently accounts for the largest share in the area of adhesive curing and inkjet printing. Experts expect a significant increase in the market share of LED UV systems in the coming years. LED UV units are ready for use as soon as they are switched on and emit only minimal heat to the substrate.
The compact systems have a particularly long service life. Depending on where light is required on the substrate, the LEDs can also be controlled in zones.

"We are not only focussing on the short-term effect, but also look at sustainability from all aspects."

Print

At the centre of the drupa trade fair appearance of IST METZ will be focussing on the "HotSwap" product concept for sheetfed, web and narrow web printing, that combines the advantages of both technologies. IST METZ equips its UV units in such a way that they can be operated in series or alternately operation with UV lamps or UV LEDs. Integration and electrical supply is identical for both systems, only the plug-in unit with the light source must be replaced in the printing press. The hybrid concept is particularly interesting for printers who want to convert their machines depending on the job and without great effort. However, by purchasing one technology, they can also switch to the other at any time. Once you have purchased one technology, you can easily switch to the other. If their requirements change, they can easily upgrade to the other system.

The HotSwap concept will be demonstrated at the trade fair using a water-cooled unit for sheet-fed printing unit and an air-cooled unit for label printing.

For commercial printers who have had little contact with the subject of UV curing, IST METZ recommends the use of its UV LED systems. This is where the intrinsic advantages of UV technology come into play: drying in seconds, immediate further processing, significantly less wastepaper.

UV LED technology is particularly suitable for 4C printing without complex finishing effects. Mirror board, foils and uncoated papers can be produced with high-quality printing. An example IST METZ will also be printing at drupa.

LED upgrades and retrofits

You can upgrade or retrofit almost any machine with our modulux LED systems.

Thanks to the modular concept and optional components, we can fulfil your individual requirements. Converting to LED-UV can lead to considerable energy savings - getting started with LED technology is possible with modulux without major costs and often pays for itself after only after 2-3 years. modulux systems can also be combined as hybrid with any other IST light source and can also be equipped with HotSwap technology.

In general, LEDs generate a lot of heat, which is the main reason for a shortened LED service life. Therefore, heat management tailored to the operation is important to reduce the operating temperature as much as possible.

Connecting the LEDs directly to the circuit board is the most efficient method.

The combination of thermally conductive materials and water cooling ensures stable performance.

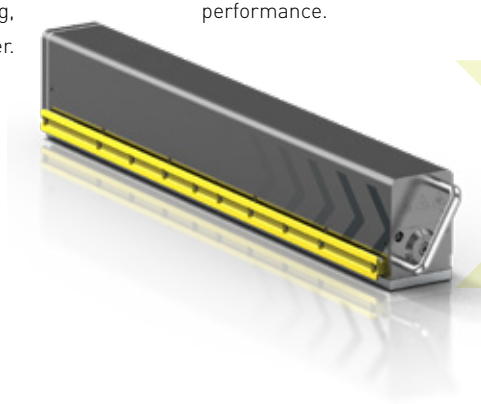
An operating temperature of 15-25 °C thus ensures an LED service life of more than 35,000 hours.

modulux systems have an optical system, the lenses ensure a high UV output on the substrate. Thanks to the design of the optics with a uniform and continuous output, the peak intensity of the spectrum at 395 nm (standard) can be increased by between 120% and 200% compared to a UV lamp.

TECHNICAL DATA

modulux

Power	75 W/cm	120 W/cm
Irradiance Dosage @100 m/min	25 W/cm² 220 mJ/cm²	35 W/cm²
Irradiance @45 mm	-	15 – 16 W/cm²
Irradiance @100 mm	-	14 – 15 W/cm²
Coolingsystem	Water-cooled	Water-cooled
Optical design	Collimated	Collimated
Power Output	20 – 100 % // 1 % - Steps	20 – 100 % // 1 % - Steps
Remote-monitoring	Yes	Yes
LED-lifespan	> 30.000 hours	> 30.000 hours
Wavelength	395 nm (default) other wavelengths upon request	395 nm (default) other wavelengths upon request
LED recession @10.000 h	< 5 %	< 5 %
avg. Module failure	< 0,3% / 5.000 h	< 0,3% / 5.000 h
Format switching	Yes	Yes
SMARTcure	Yes	Yes
Operating temperature range	15 – 25°C	15 – 25°C



"We think long-term with a view to a sustainable future. That's why we see our UV and UV LED solutions not just as a as a trend, but as a way to lead to the next generation of light curing."

SMARTcure
THE FUTURE OF CURING IS INTELLIGENT

How much energy can be saved with LED UV technology?

This is probably the most frequently asked question and cannot be answered in general terms. The more reactive inks means that energy savings are generally possible. As an LED UV system is ready for use as soon as it is switched on, standby times are eliminated.

Format switching allows the power-saving switch-off of LEDs outside the print format, what offers further savings potential.

We have understood that UV systems must be able to do more than just curing.

Our LED systems are therefore equipped with the new SMARTcure technology from IST METZ. SMARTcure is the new digital brain of our special light sources and enables maximum energy and CO^2 savings as well as high efficiency and a long service life for your light sources.

Individual advantages of both technologies:

UV-LED	UV-LAMP
+ Clocking	+ Established technology
+ Format switching	+ Wide lamp spectrum
+ Compact design	+ Wide availability of ? and varnishes
+ Low heat load on the substrate	+ Low purchase costs
+ No ozone	+ UV-Lamp and reflector easy to replace
+ No mercury	+ Also suitable for food packaging
+ Pure and "cold" UV light	+ Change of spectrum possible
+ Energy-saving potential	+ Various doped lamps available
+ Long lifespan	+ Flexible Shutter Positioning
+ No exhaust installation	+ SMARTcure (soon available)
+ Cascadable on working width	+ Very high UVC output
+ Immediately ready for use after switching on	+ Wide range of photoinitiators available
+ Dimming function	+ Highly crosslinked surface properties
+ SMARTcure	-

SMARTcure

Our experts have reinvented the UV curing process once again and the result is the SMARTcure system, which uses AI to recognise potential energy savings and can positively influence the service life of an LED.
The required data transfer between the system and the cloud creates a system that, in addition to an assistance function, can also provide operating data for maintenance. All with the aim of establishing modern and environmentally friendly work processes. Precise details for the performance settings per dryer are determined and implemented in an energy-saving manner.

The clever system for modern and energy-saving workflow processes

In concrete terms, this means a reduction in consumption through:

- the power of the curing system
- the format-dependent switching
- the reduction of the cooling capacity
- as well as the reduction of nitrogen (for inertised systems)

The associated reduction in power consumption and operating temperature has a positive effect on the service life of LED systems.
The necessary parameters (such as substrate, ink and varnish information) are entered manually secured or automatically via an interface and classified via a cloud connection. The information is automatically stored in a database.

What follows is a processing and calculation

- the power of the UV system depending on the type of ink and ink location
- a prediction of the maximum production speed depending on the required dose
- the required LED zones in relation to the print format
- the potential energy saving.
- the resulting extended LED service life

The user can use a feedback option to evaluate the curing quality. Feedback and changes to settings are processed directly in the cloud.

Other measuring systems and analyses can also be used, such as the UV Analyzer, measurement of the double bond conversion, solvent resistance or simply a thumb test. The SMARTcure system therefore learns continuously and enables a simple and customer-friendly optimisation process for modern curing applications.

LED segment control: All LED systems from IST METZ have a variable zone switching of the LED segments and the option of clocking (in sheet offset). The intelligent SMARTcure control system automatically recognises the format to be printed and actively controls the switching on and of the necessary LED zones.

ELECTRONIC POWER SUPPLY OF THE UV SYSTEM:

ELC®-X

Efficiency:
High efficiency typically up to 97.4%

Power factor:
typically, 99.0 % at rated power (can be operated directly from the mains)

Low harmonic content:
of the mains current due to power factor correction filter (PFC).

Lamp:
shines flicker-free, can be dimmed continuously

Lamp output:
6–36 kW depending on device type

Protection class: IP 54

Supply voltage:
3 x 400 – 480 V ±10%

Dimensions:
X6: 125 x 470 x 320 mm (H x W x D)
X8: 125 x 470 x 420 mm (H x W x D)
X12: 125 x 470 x 420 mm (H x W x D)
X16/24: 250 x 470 x 420 mm (H x W x D)
X36: 375 x 470 x 420 mm (H x W x D)

Weight:
14 – 61,5 kg depending on appliance type

Additional features:

- Configuration, control and monitoring via Profibus interface Can be easily integrated into the system control
- Stacking concept
- Mains voltage fluctuationsare compensated for by integrated power control
- Short-circuit-proof and open-circuit proof
- Integrated electronic lamp ignition lamp ignition
- Integrated control and monitoring electronics
- Integrated earth fault monitoring
- air-cooled
- also suitable for the operation of UV LED systems
  - HotSwap

The electronic ballasts in the ELC®-X series have been specially developed for the operation of UV lamps and UV LEDs, taking into space conditions. The ELC® power supplies optimise process reliability in printing while simultaneously reducing operating costs. They contain all the components required for ignition and power-controlled operation.

ALSO SUITABLE FOR OPERATING **LED UV SYSTEMS**

PRODUCT OVERVIEW
UV & LED UV SYSTEMS

water cooled
air cooled

	Narrow web	Web & Wide web	Sheetfed Offset	Digital printing	Further industrial applications
Lamp	MBSC MBSCx	BLK MBS-L	EOP ID BLK LE UV	MBS-LI W/IR	BLK MBSC MBS-LI
	HotSwap	**HotSwap**	**HotSwap**		
LED	modulux	modulux modulux Turbo	LUV modulux Turbo (Upgrades)	SZ VZ MZ SC SCX Pincure	modulux modulux Turbo SZ, VZ

FREEcure

FREEcure is a revolutionary UV curing technology developed and patented by IST METZ in co-operation with BASF SE. It enables the cross-linking of reactive inks and coating systems without the use of photoinitiators, inertisation and electron beams. FREEcure is characterised by outstanding properties and is based on increasing the high-energy UVC content in the spectrum of a UV lamp. Thanks to the innovative FREEcure technology intensive applications in surface coating can be carried out with a significant reduction in lamps extremely energy-efficient.

USPs FREEcure

- Increase in high-energy UVC content
- Elimination of nitrogen
- No or less photoinitiators
- Elimination of electron beams
- Reduction of PI

UV Analyzer

The UV Analyzer is an innovative, app-based UV radiation measuring device by IST METZ. It consists of the free UV Analyzer app for Android and iOS, the UV Analyzer measuring strips and the UV Analyzer Stick. With over 45 years of experience in UV technology, we offer the UV Analyzer as a simple and precise way of displaying the measured UV dose in mJ/cm2. You can compare this value with your reference value at any time to determine the ageing process. The app also displays the dose measurements in relation to the type of UV unit and the spectrum, for both UV and LED. The UV Analyzer is ideal for quality assurance and documentation of UV curing processes.

USPs Analyzer

- Independent measurements in (printing) machines
- For both UV and LED suitable
- Self-adhesive measuring strips
- Rechargeable battery via USB
- Smartphone as measuring device

Inertisation

We are the experts in the field of inertisation for industrial applications. The inertisation is an alternative form of UV curing in which an oxygen-reduced irradiation zone is used. UV systems are usually operated with an inert gas such as nitrogen to reduce the oxygen content in the irradiation zone. Coordinated with the chemistry this enables effective crosslinking under oxygen-reduced conditions, which is a major process benefit in applications for resistant surfaces and food packaging. Inertisation can also be used in other areas of application - contact us! Our inertisation solutions help to improve the quality and efficiency of UV curing processes.

USPs Inertisierung

- Closed chamber
- Also for batch processes
- Minimisation of nitrogen consumption
- Avoidance of undesired chemical reactions
- Increased productivity & energy savings
- Processing of temperature-sensitive materials
- No ozone
- Excellent surface hardening
- Reduction of migration

Excimer

Excimer is a technology that is used in many industrial sectors and applications. The term "excimer" stands for "excited dimer", which means that a dimer (e.g., Xe-Xe, Kr-Cl gas) is excited to a higher energy state after an alternating voltage. At least one of the electrodes of the dimer gas is physically separated by a dielectric barrier layer (synthetic quartz glass). Excimer lamps generate ultraviolet light with a wavelength of 172 nm in an inert atmosphere. They are frequently used for matting surfaces, for disinfection and for cleaning and modifying surfaces. Excimer lamps produce extremely hard and matt surfaces, which offer high scratch and abrasion resistance.

USPs Excimer

- Production in the IST-group
- Easy to clean
- Also with high performance available
- No matting agents in the coating
- Working width of up to 4 meters
- Long service life

IST Campus

The UV technology campus is a state-of-the-art research and development laboratory that was built at our headquarters in Nürtingen in 2023. Here we combine application, process and product evaluation in one place. Our aim is to make LED UV technology even more efficient and attractive for a wide range of applications. In our competence centre, a team of technology experts is researching the next generation of high-performance curing systems, among other things. In the competence centre, we also work closely with our customers and partners from the chemical industry to develop customised solutions and integrate them into their production process. We also support you in the development of process sequences before the start of production and offer simulation tools to successfully scale up the processes to your customised production conditions.

USPs Campus

> Experience from over four decades
> Broad analytics
> Combination of specialists from the fields of printing and chemistry
> Technologically state-of-the-art environment and equipment
> Individual customer trials and testing options

ABOUT

> Production of UV lamps (up to 4m)
> Production of excimer lamps (up to 3.10m).
> Production of electronic ballasts up to 36 KW
> System optimisation through the use of state-of-the-art simulation software
> Optimised nitrogen and ozone control
> More UVC than any other UV system manufacturer
> Special machine and system construction
> Reliable partner along the entire value chain
> From standard solutions to elaborately designed customised solutions
> All core components made in Germany, within the group of companies
> Global service network over the entire service life of your IST UV systems
> Award-winning global market leader since 2018 & top innovator since 2019
> IST shop

Why we are the best partner for you:

1. **Deeper integration:** Our components are designed to be seamlessly integrated into the existing press architecture, resulting in more efficient and smoother production.

2. **Cost efficiency:** By purchasing individual components, OEM partners can save costs as they only need what is required for their specific requirements. This allows the budget to be more targeted and avoid unnecessary expenditure.

3. **Process control:** Our solution enables more precise digital process control, resulting in higher quality end products.

4. **Smart Technology:** We understand that UV systems need to do more than just cure. Our LED systems are therefore all with the new SMARTcure technology from IST METZ. SMARTcure is the new digital brain of our speciality light sources and enables maximum energy and CO^2 savings as well as a long service life for your light source.

5. **Adaptive LED curing:** All LED systems from IST METZ feature variable zone switching of the LED segments as well as the option of sheet timing (in sheet offset). The intelligent control system automatically recognises the format to be printed and actively controls the switching on and off of the necessary LED zones.

6. **Future-proof:** Hotswop and hybrid technology and joint application development with the products that will be used later

7. **IST Campus:**
Research, application and process development combined in one place

MAXIMUM EFFICIENCY IN SHEET-FED OFFSET

UV from IST: The technology for your sheetfed offset press

The last 45 years speak for themselves, during which time our technology for UV solutions has been used successfully all over the world. With this many years of experience, we have been able to equip thousands of sheetfed offset printing presses from all well-known manufacturers with our UV technology. Our trained design team, and 10 sales and service units around the globe, are on hand with help and advice to optimise UV products for the respective printing press and requirements. Always focussing on the highest quality and reliability.

Technologies used in sheet-fed offset printing

The UV lamp technology from IST: our optimized UV units are specially designed for a variety of offset printing machines and for the most demanding applications.

In our own lamp manufacturing, we produce top-quality products with a long lamp lifespan. Thanks to FLC, a simple and uncomplicated lamp replacement is possible. Our experts are also responsible for the development and coating of reflectors, ensuring optimized output tailored to each specific application area.

Our ELC power supplies are future-proof, allowing for easy and customer-friendly swapping between LED and UV lamp units via HotSwap, without complex machine modifications. ELC ballasts are developed and manufactured in-house by us, ensuring powerful and lamp-friendly processes.

The sensor technology and UV measuring devices developed by IST METZ can be integrated into our UV units. The UV online sensor and UV analyzer enable an innovative and precise workflow, allowing for quick measurements when needed. Simple and intuitive operation of the UV system is achieved through complete system integration with various sheet-fed offset printing machines.
Reducing or avoiding downtime is enabled through remote access.

The IR/warm air drying technology from IST - operational from 50 to 130 cm.

For a powerful production process, tailored IR/warm air units are available upon request, depending on the offset printing machine. IR/warm air systems adapted for inkjet corrugated direct printing - our drying solutions extract optimized energy balance from these. Complete system integration (as mentioned above) is also possible here.

LED technology from IST - taking it one step further

Our LED solutions are continuously developed and enhanced by our experts, ensuring a future-proof and energy-efficient curing technology.
In this regard, we have further optimized the LUV high-performance LED system for sheet-fed offset printing machines, which can significantly enhance results, especially with special inks and varnishes in security applications.
LED systems are particularly energy-efficient, with concrete energy savings achieved, for example, through format switching in 30 mm increments or through clocking (shutting down between sheets).
Through a special optic, we have optimized the process for distances to the substrate ranging from 50 mm to 150 mm for sheet-fed offset printing machines.
Here too, deployment in various offset printing machines is possible through complete system integration.

UV ALLROUND SOLUTION
FOR NARROW WEB

	MBSC®	MBSCx®	modulux
UV Technology	Lamp	Lamp	LED
Power input	200 W/cm	160 W/cm	75 W/cm
Dose	265 mJ/cm²	210 mJ/cm²	200 mJ/cm² @100 m/min
Format switch-off	✗	✗	✓
Reflector-/ Lenstechnology	URS®-reflectors	URS®-reflectors	Innovative lens design for peak perfomance in LED-intensity and dosage
Spectrum/ wavelength – default	Hg	Hg	395 nm
Spectrum/ wavelength – options	Fe; GaIn	Fe; GaIn	365 nm / 385 nm / 405 nm
Coolingsystem	Air-cooled solution for continuous performance		High performance water cooling
Heat Management	Lamps- and Reflector-cooling with integrated Housing cooling		LED chips benefit from optimized heatsinks for maximum efficiency
Power Supply	ELC®X / ELC®Xi	ELC®X / ELC®Xi	LED Controller Board
Housing	Insertion	Insertion	Stand alone or Insertion adapter for MBSC-housing
Start-up time	90 s	90 s	< 1 s
Power-swap	✓	✓	✓
Wearing parts	Exchangeable Lamp (easy lamp change, warranty 2.500 h) Long life Reflector (> 10.000 h)		✗
Options	Substructure: - Undershielding air-/ and water cooled integrated in Housing - Chill/cooling roller - Interisation		Substructure: - Undershielding water cooled - Chill/cooling roller - Interisation

LED LAMP

MAXIMUM EFFICIENCY
FOR WEB PRINTING

Discover the newly redesigned BLK for guaranteed highest efficiency in roll-to-roll printing.

> State-of-the-art ray tracing software optimization: The system has been perfected to ensure extraordinarily high efficiency and significantly reduce power consumption. AI-optimized tools were employed to achieve unparalleled efficiency.

> Enhanced UVC output with minimal thermal stress: With the BLK, you achieve unparalleled UVC output, elevating the quality of your printed products to a new level while simultaneously minimizing thermal stress.

> Quick exchange of reflectors thanks to URS inlay technology: The innovative URS inlay technology enables lightning-fast exchange of reflectors, minimizing maintenance times and increasing productivity. Additionally, the inlays are available with various spectral reflection properties to meet individual requirements.

> Flexible Servoshutter Positioning (FSP): With the FSP system, you can continuously adjust the working position of the shutter. This continuously limits the opening angle when printing on temperature-sensitive materials, minimizing heat transfer to the substrate.

> IST-UV Online Sensor: The integrated IST UV-Online Sensor enables continuous real-time measurement of UV radiation efficiency. This process control is displayed on the operator interface, ensuring constant monitoring of production.

> HotSwap and Lamp Quick Change FLC: Thanks to the FLC system, UV lamps can be easily replaced in a matter of seconds. This wireless UV lamp system ensures maximum machine availability. The BLK can also be used in a switching concept or hybrid mode with the modulux or modulux Turbo as an LED-UV exchange system.

> Optimal Heat Management: Efficient water cooling of the reflectors and housing ensures optimal heat dissipation. Additionally, a water-cooled counter shield or cooling cylinder further reduces the temperature load on the substrate.

> Design and functionality: The BLK impresses not only with its performance but also with its compact design and flexible integration into any machine. With lamp lengths of up to 2,300 mm and individual adaptation to the specific requirements of your application areas, the BLK offers an optimal solution for packaging printing, newspaper printing, metal printing, banknote printing, converting, and industrial applications.

Experience the revolution in roll printing with the newly redesigned BLK and boost your productivity and quality in unprecedented ways!

INKJET
IST INTECH

Inkjet unlimited – discover your possibilities

In the field of UV curing, hybrid solutions combining standard and LED-UV technology offer new possibilities for special tactile effects on printed products. By combining LED-UV units for "pinning", which pre-cures the inks during the printing process, and a standard UV system for final drying, optimal results can be achieved. This opens another niche for special print finishing. However, since the use of UV inks is not economical or desired in some areas, for example in the direct printing of corrugated board or cardboard, a combination of water-based ink and warm-air infrared drying is used.

Unlimited inkjet possibilities with IST INTECH

With compact designs and energy-efficient LED-UV systems, the LED-UV systems from our sister company, IST INTECH, are the gold standard among inkjet solutions. Our UV lamp and UV-LED curing systems, manufactured in the UK, are frequently used for digital label printing and large-format printing. They are available in various configurations and can be used individually or as part of a fully integrated modular system.

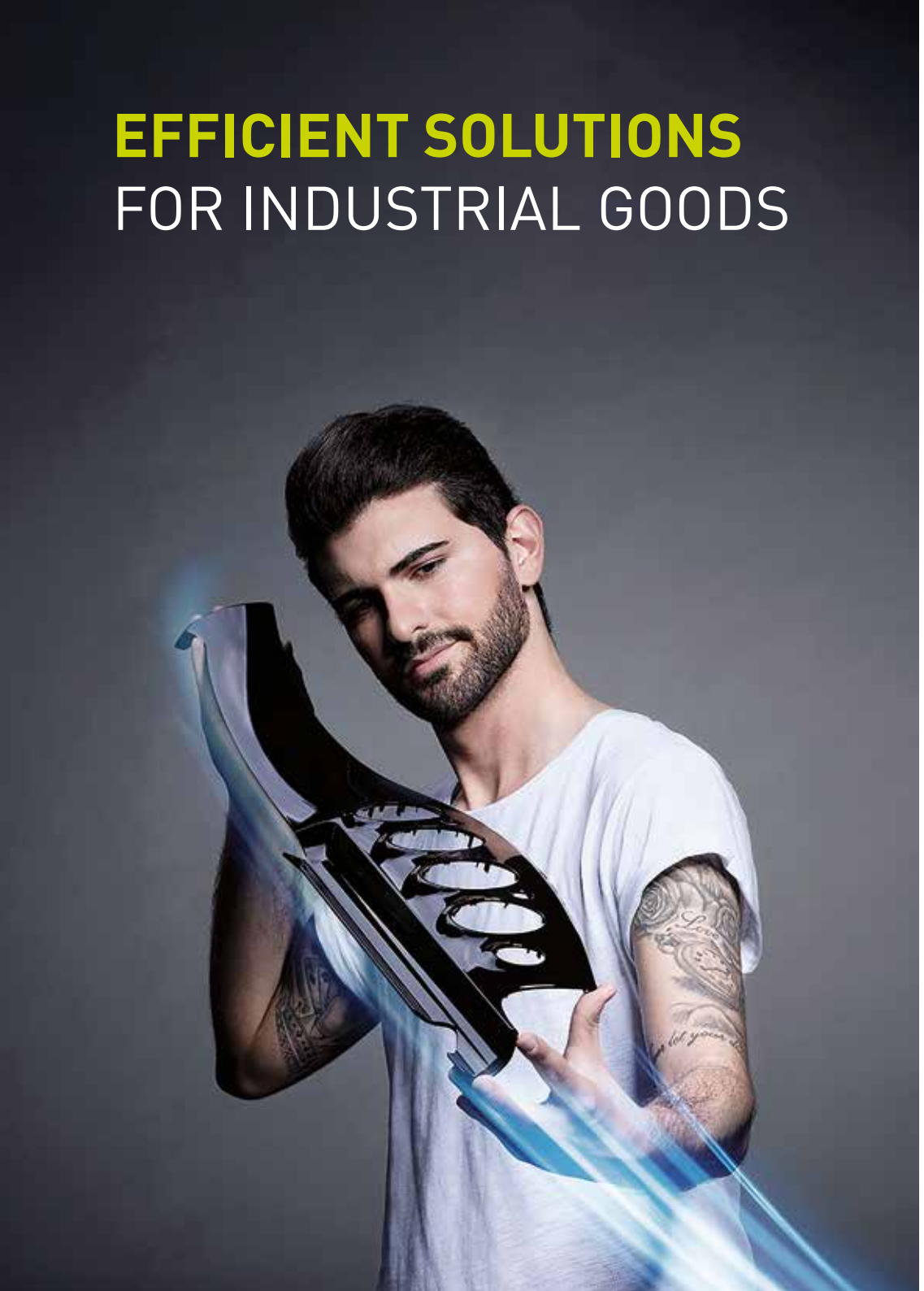
The product range of IST INTECH is specifically designed for use in digital printing applications. This includes so-called pinning systems. These light sources are designed to effectively pin the dots between colors in a digital printing application, allowing them to remain tacky until final curing is applied.

The portfolio comprises a wide variety of modular systems, ranging from air-cooled, very lightweight options to LED systems with IP54 rating for installation in humid and dusty environments.

W/IR Thermocure

We also offer infrared technologies that can be used in various applications where solvent release drying processes involve water. IR emitters provide rapid energy transfer and quick heating of materials such as ink films. The energy transfer accelerates the evaporation process. Simultaneously, defined air circulation and extraction ensure safe removal of released water. Typically, medium-wave IR emitters operate in the wavelength range of 0.9 to 2.9 µm. These emitters are used, for example, for drying paints, varnishes, and coatings. At IST METZ, you'll find a variety of IR systems for different applications. For more information on our infrared technologies, please visit our website.

EFFICIENT SOLUTIONS
FOR INDUSTRIAL GOODS



We develop, produce and sell UV systems for the environmentally friendly curing of inks, varnishes, silicones and adhesives that do not contain solvents and for a wide range of industrial applications. UV technology is already being used successfully in many industrial sectors, for example in the coating of automotive parts, surface finishing and steel pipes or in the manufacture of displays.

UV solutions for your requirements

Our products offer versatile solutions for coating, varnishing, bonding and metallising surfaces. Both solvent-free and solvent- or water-based UV systems with an evaporation zone before cross-linking are used. UV lamps and LED UV units are available for curing cationic, radical or dual-cure coatings.

The surface treatment of 3D objects is particularly demanding, for which we offer a range of specialised solutions that meet the most diverse requirements for UV coating cross-linking - even on heat-sensitive materials. These systems are used in various working widths for 2D and 3D applications.

Converting

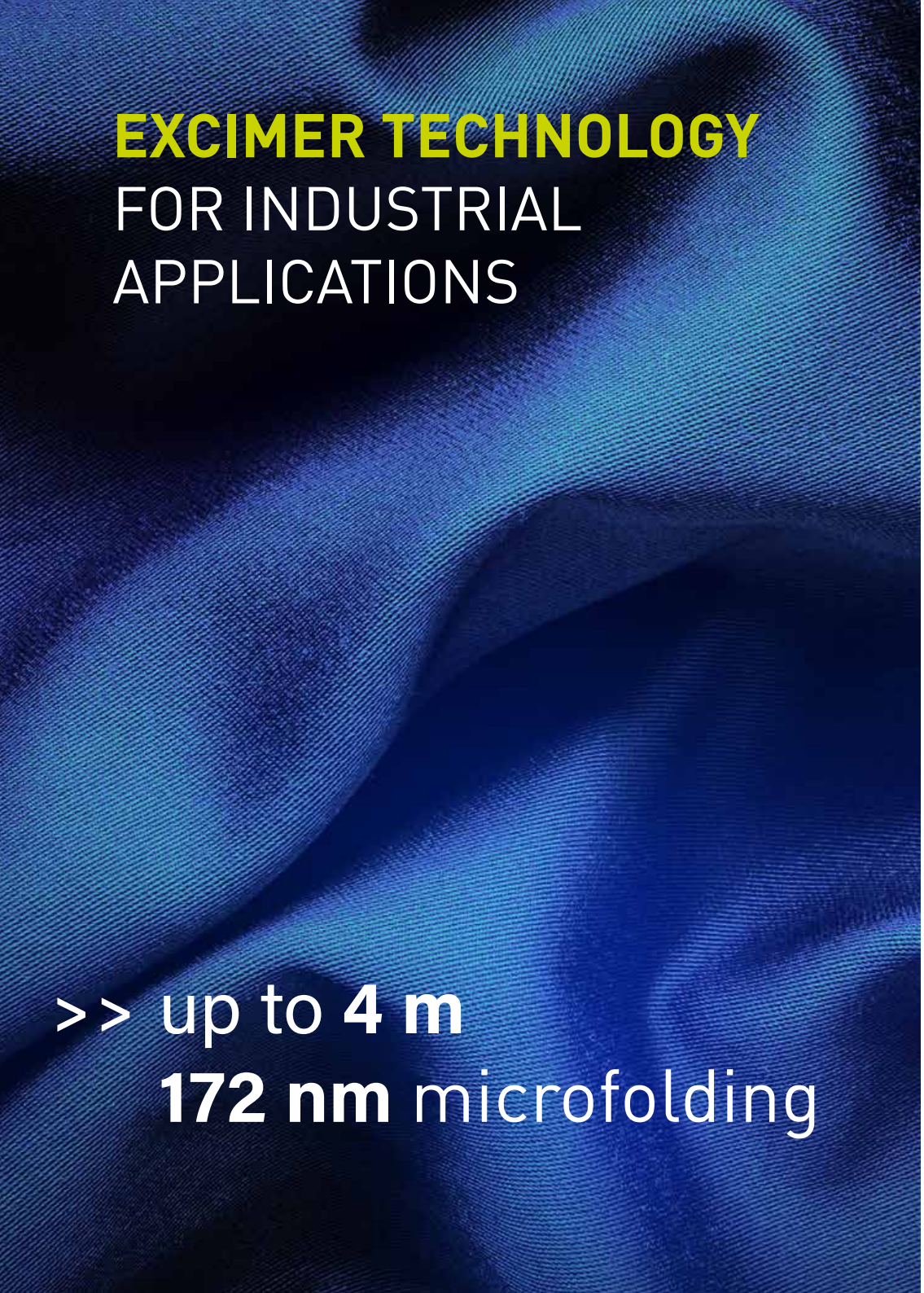
Our UV systems for curing coatings, even on heat-sensitive substrates, offer customised converting services for your surface finishing. IST's UV systems create sophisticated effects, such as adhesive cross-linking, siliconisation, matting or hard coating. We have further developed our technology so that optimised nitrogen and oxygen consumption results in a positive energy balance.

Our customised surface curing solutions are suitable for substrate types such as films, paper or PVC flooring when matting, siliconisation or UV-curing adhesives are required.

We are the specialists for adhesive cross-linking, siliconisation, matting and hard coating. Our UV systems are flexible and adaptable, ideal for different types of curing and coating, even on sensitive substrates. With the help of inert gas and innovative excimer technology, specific effects such as matting can be achieved. We also offer scratch-resistant surfaces through hard coating.

Your added value

Our UV and LED UV systems are characterised by a low temperature load on the substrates and reduced energy consumption thanks to high UV efficiency. The compact design enables easy integration into new and existing production systems. On request, our systems can be operated flexibly alternating between UV and LED UV systems. With decades of experience and a strong network, we offer comprehensive industry expertise in display production. We develop customised UV curing solutions and carry out customer-specific tests at our UV Technology Campus.



EXIcure for industrial applications

Matifying

Matting is achieved by irradiating surfaces with short-wave excimer beams, which create micro-folding and thus a matt surface. This is followed by deep curing with UV medium pressure lamps. This technology is used in the production of PVC flooring, parquet flooring, decorative paper, furniture and flooring foils as well as plastic and wooden panels, among other applications. We develop customised UV curing solutions and carry out customer-specific tests at our UV Technology Campus.

Bleaching & disinfecting

Ozone is produced by UV radiation below 242 nm when oxygen molecules are split into oxygen atoms by high-energy light, which then form ozone (O3). Excimer lamps with a wavelength of 172 nm are powerful ozone generators due to their high energy. In disinfection, UV light up to 280 nm damages the DNA of bacteria and viruses, which prevents them from multiplying. Typical applications include bleaching agents in the textile and pulp industry as well as the disinfection of water and air.

EXI PRO - Cleaning and modification

UV cleaning processes are ideal for sensitive materials such as functional films and wafers, as conventional methods such as corona or plasma can cause surface damage. UV light with short wavelengths and excimer treatments improve wettability and chemical affinity without damaging the material. Chemical-free cleaning enables the gentle removal of contaminants, especially from metal surfaces. These technologies are used in the display and semiconductor industry, wafer and battery production as well as for optical devices to optimise surface preparation.

Worldwide unique process control of the intert atmosphere below the EXI Pro lamp.

CUSTOMIZED, FAST, RELIABLE:
OUR RANGE OF SERVICES

A well thought-out maintenance concept is the key to sustained high productivity. With our preventive and reactive services, we ensure that your IST UV system will provide maximum availability for many years to come. Choose the right services for you from four packages.

SERVICE PACKAGES

	ASSIST ON DEMAND	ASSIST ADVANCED	ASSISST PROFESSIONAL	ASSIST PREMIUM
1 Assist product*	✓	✓	✓	✓
Service on request	✓	✓	✓	✓
Regular (annual) inspection of the UV system by trained IST engineer	✗	✓	✓	✓
Comprehensive function and safety check of all components	✗	✓	✓	✓
Inspection and, if necessary, replacement of wearing parts	✗	✗	✓	✓
Software updates	✗	✗	✓	✓
Advantage pricing for spare parts	✗	✓	✓	✓
Warranty extension	✗	✗	✗	✓
One additional ASSIST-product*	✗	✗	✓	✓

*THE ASSIST PRODUCT PORTFOLIO

Compile your own personal services!

IST SHOP
You receive one set of IST original parts, customized to your preferences.

WARRANTY EXTENSION
After a general overhaul or a system update.

REMOTE SERVICES
Problems can be recognized quickly via remote diagnostic, therefore operations of IST service technicians on site can proceed faster or even be not necessary. Downtimes get reduced and your productivity increases.

CALIBRATION SERVICE
For Residual oxygen measuring devices or UV sensors/ UV measuring devices.

TRAINING
About the process technology or maintenance of UV units (on site or at IST).

ONE-TIME ON SITE MAINTENANCE
through trained IST personnel to check the technical functionality of the UV unit (including a safety check and consulting on the replacement of wearing parts).

IMPRINT

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