



SOLARIS PLATFORMS

Fully automated solutions
for thin film production

NEW THINKING IN PVD PRODUCTION

A NEW APPROACH TO MANUFACTURING - FAST, ACCURATE, RELIABLE

SOLARIS platforms combine the know how from delivering over 5000 high speed optical disk systems with experience gained from over 3000 semiconductor PVD tools to deliver a new approach in thin film mass production.

From Touch Panels to Thermoelectric Generators, Power Devices to Photovoltaics, SOLARIS S151 and S380 platforms deliver flexible high speed manufacturing solutions for both rigid and flexible substrates up to 15 inch diagonal.

SOLARIS capabilities in a nutshell

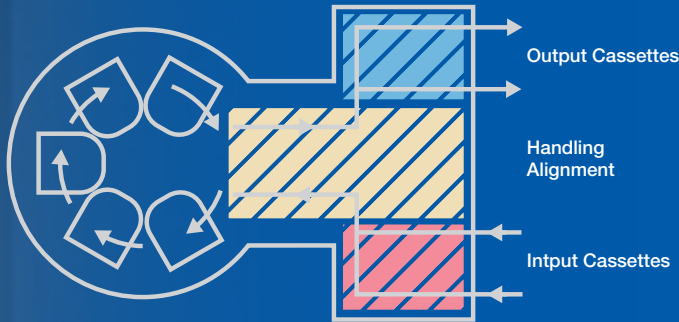
- High speed sputter processing
- Full integration into automated fab
- Dielectrics, metals, metal oxides & TCOs
- Antireflection and Antismudge Coatings
- Small footprint for reduced cleanroom costs

FULLY AUTOMATED FAB LINES

SOLARIS increases your throughput, raises your yields and reduces your production costs by eliminating operating personnel. Take a look at some typical SOLARIS manufacturing solutions.

Example 1: One Glass Processing (OGS) for Touch Panel Applications

Typical configuration S151 or S380



Process portfolio

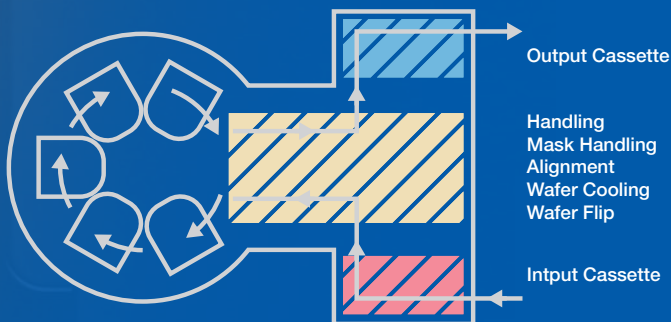
AS Coating
AR Coating
Substrate
IM Coating
ITO Coating
Metal Contact

Key Drivers

- Best equipment utilisation – mini batches or simple exchange between substrate sizes up to 15 inch
- One platform type - enabling the complete process portfolio

Example 2: Power Devices - High speed metallization (single or double sided)

Typical configuration S151



Process portfolio

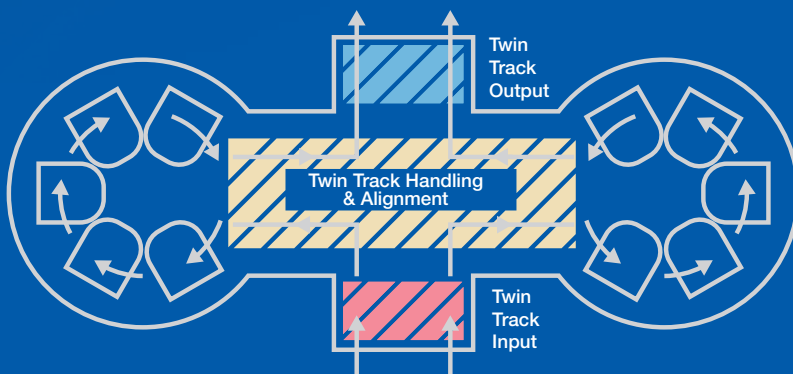
Ag
Au
NiV
Cr
Al
Substrate
Al (>1000nm)
Substrate
Al (>1000nm)

Key Drivers

- Throughput – new levels of throughput in single & double sided processes

Example 3: Photovoltaics- Back side metallization on Si Cells

Typical configuration S151



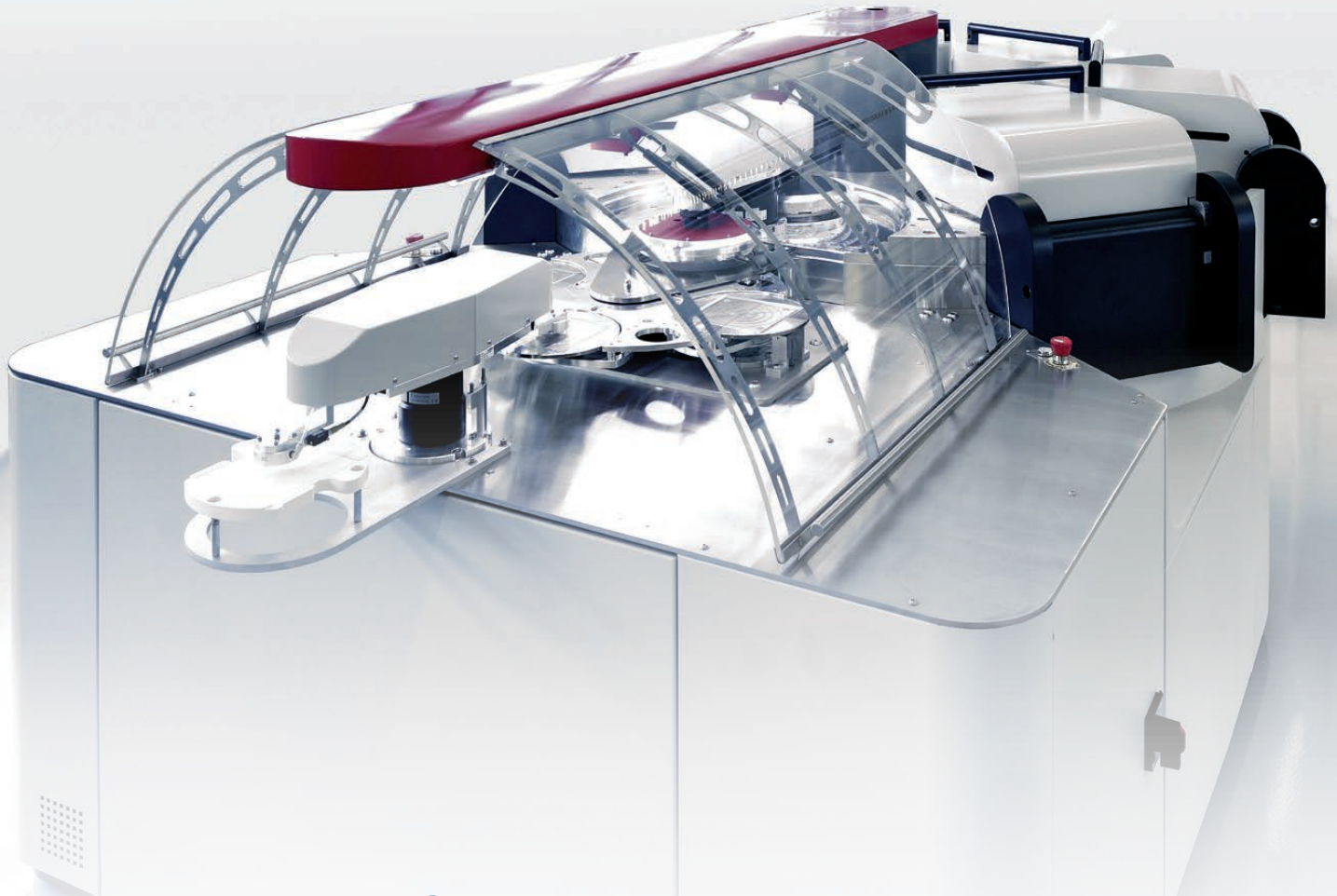
Process portfolio

Sn	Cu
Ni, NiV	
Al	
Ti	
n-type Si	
Substrate	

Key Drivers

- Contact Quality – suitable for high efficiency PERC, PERT and PERL type cells
- Additional platform flexibility - TCO and AR process technologies

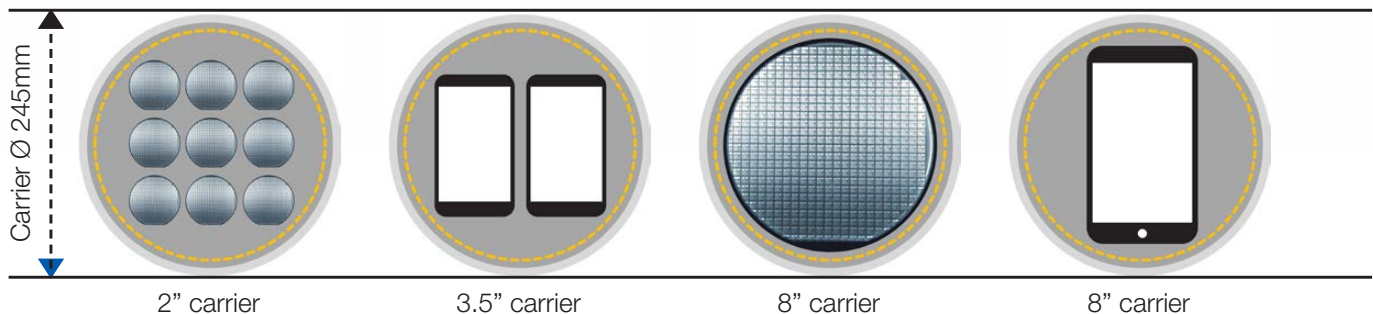
SOLARIS S151



MAIN FEATURES

- Substrates sizes up to 8 inch diagonal or mini batches
- Single substrate / carrier processing at throughputs up to 1200 pieces / hour**
- Up to 6 process stations for RTP, PVD, Etch or CVD

SOLARIS S151 carrier for flexible substrate sizes: 3.5" to 8" (max. area $\text{Ø}220\text{mm}$)



** Cycle times according exact process

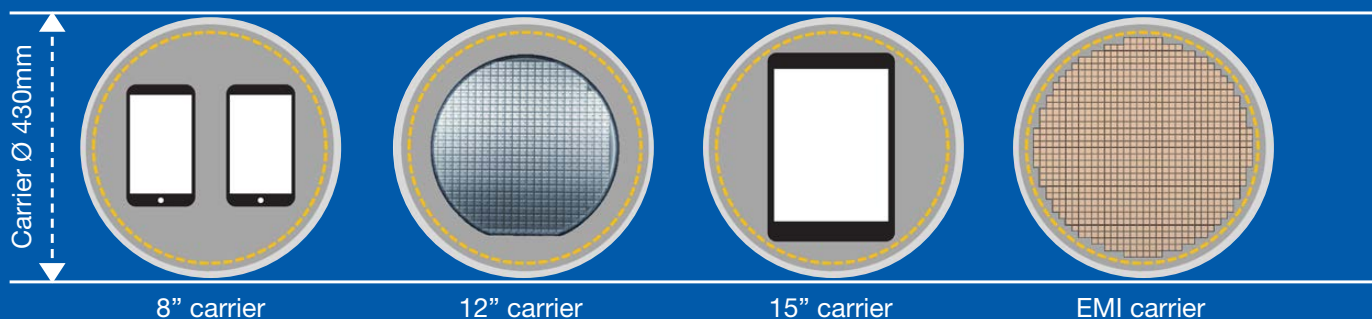
SOLARIS S380



MAIN FEATURES

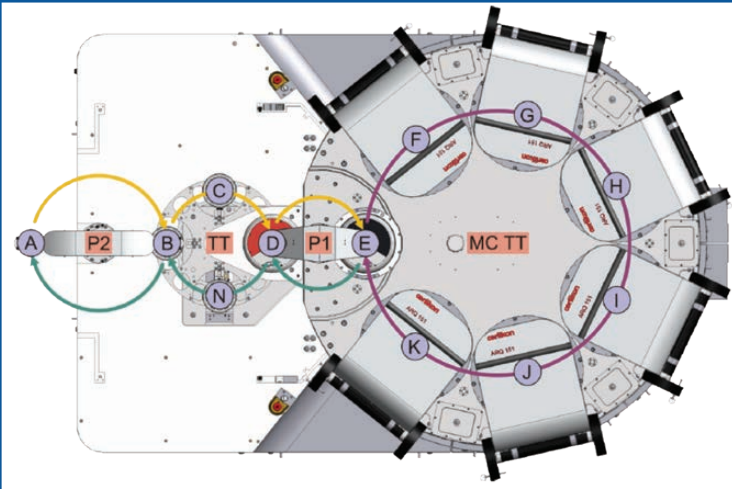
- Substrates sizes up to 15 inch diagonal or mini batches
- Single substrate / carrier processing at throughputs up to 900 pieces/hour**
- Up to 5 process stations for RTP, PVD, Etch or CVD

SOLARIS S380 carrier for flexible substrate sizes: 3.5" to 15" (max. area Ø380mm)



** Cycle times according exact process

THE POWER BEHIND SOLARIS



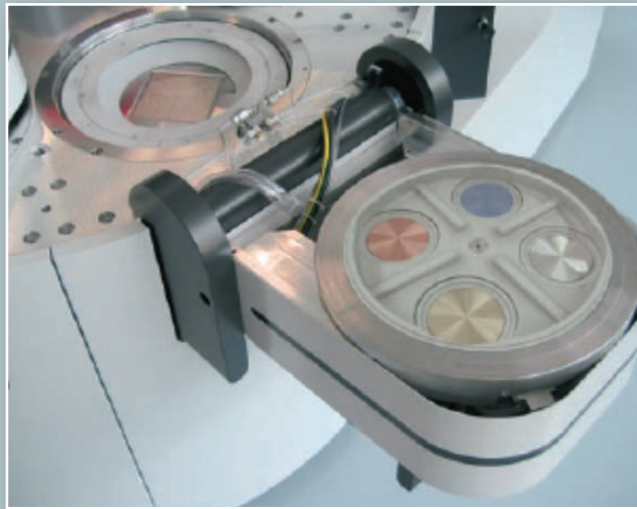
SOLARIS SUBSTRATE HANDLING - SPEED AND FLEXIBILITY

Whether you choose the S151 or S380 platform you can handle glass, silicon or polymeric substrates with ease. Parallel carrier transfer around SOLARIS by synchronous indexer is the perfect solution to achieve high speed processing and lowest cost of ownership in mass production applications.

- Carriers for individual substrates or mini batches without compromise on process uniformity
- Simple conversion between rigid, 2.5D substrates & foils
- Make multiple passes in front of process stations for complex stack designs
- Change direction of indexer travel enabling sputter in reverse order for more process flexibility

SOURCE TECHNOLOGY

From EMI shielding applications to Thermoelectric Generators, SOLARIS brings you advanced source technologies for deposition of metals, alloys, oxides, dielectrics and TCOs.



SOLARIS SOURCE TECHNOLOGY - SPEED WITHOUT COMPROMISE IN FILM QUALITY

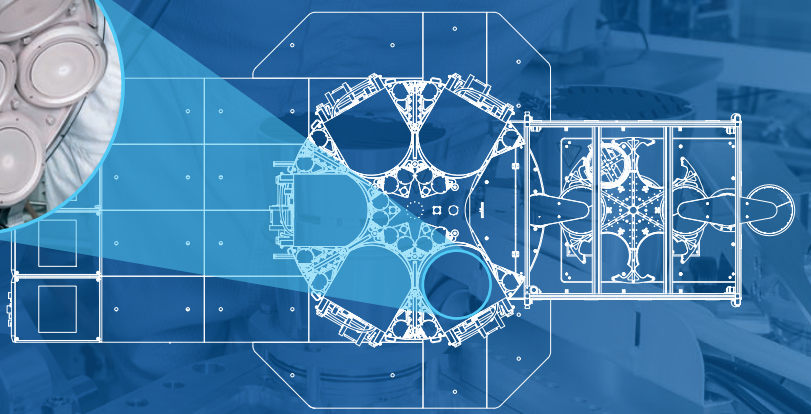
Choose from large area single DC, DC Reactive or RF sputter with cooling, etch and RTP capabilities up to 550°C , or Evatec multisource capability for up to 4 sputter cathodes at a single process station. All process modules run independently in isolation and are configured according to your application.

- Dielectrics: SiN-H, SiN, SiO₂, Al₂O₃, SiC
- Metal Oxides: NbO₂, TiO₂, Ta₂O₅
- TCOs: ITO, GZO, Zn:AlO
- Metal stacks: Al, NiV, Ag, AuGe
- Alloys with MSQ multisource
- Deposition uniformities $\pm 2\%$ over whole carrier



PENTA PLUS CATHODE TECHNOLOGY

Penta Plus cathode technology delivers perfect step coverage in deposition of alloys in EMI shielding and reduces both consumables costs and target change times



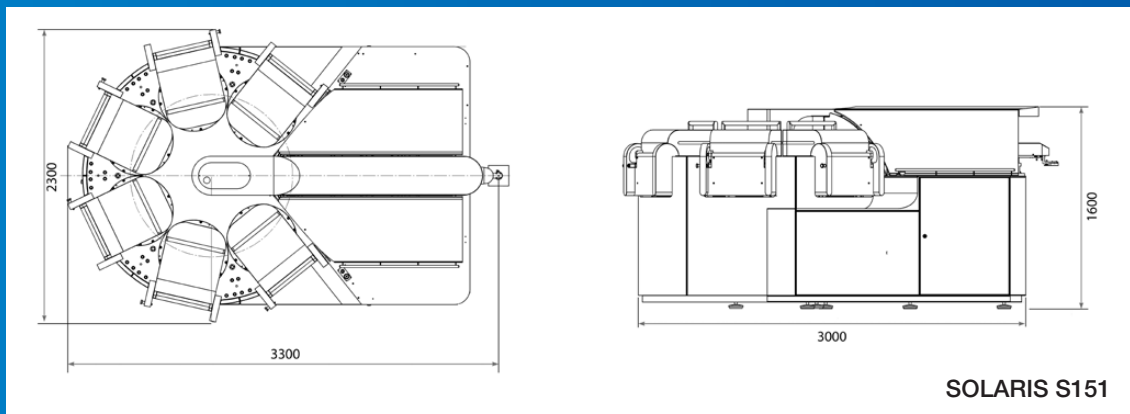
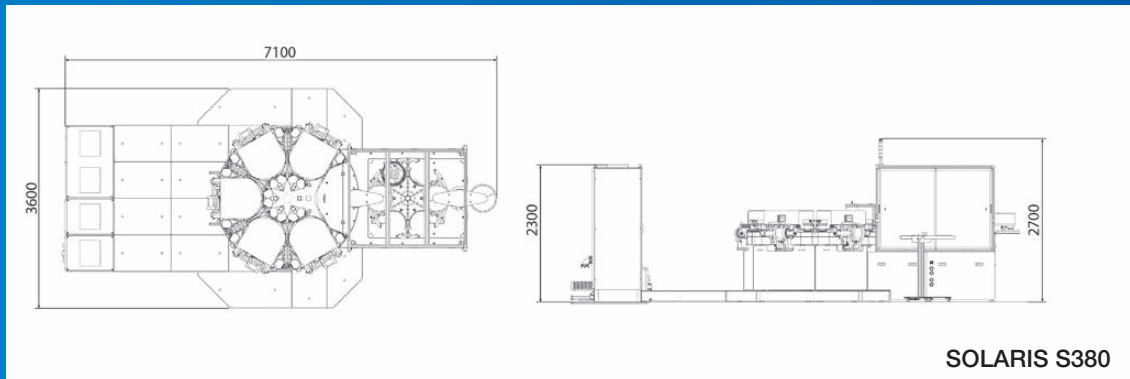
SOLARIS

From Touch Panels to Thermoelectric Generators, Power Devices to Photovoltaics, SOLARIS platforms deliver flexible high speed manufacturing solutions.

Platform summary

- Fully automated production solutions
- High-throughput on substrates sizes up to 15" diagonal
- Flexible configurations

TYPICAL LAYOUTS



ABOUT EVATEC

Evatec offers complete solutions for thin film deposition and etch in the semiconductor, optoelectronics and photonics markets.

Our technology portfolio includes standard and enhanced evaporation, a range of advanced sputter technologies as well as plasma deposition & etch.

Our team is ready to offer process advice, sampling services and custom engineering to meet our customers individual needs in platforms from R&D to prototyping and true mass production.

We provide sales and service through our global network of local offices.

For more information visit us at www.evatecnet.com or contact our head office.



Evatec AG
Hauptstrasse 1a
CH-9477 Trübbach
Switzerland

Tel: + 41 81 403 80 00
Fax: + 41 81 403 80 01
info@evatecnet.com
www.evatecnet.com

Product descriptions, photos and data are supplied within the brochure for general information only and may be superseded by any data contained within Evatec quotations, manuals or specifications.

Edition 3: Reprinted March 2018, first printed June 2017.
(Edition 2 first printed Jan 2016, Edition 1 first printed Sep 2015).