

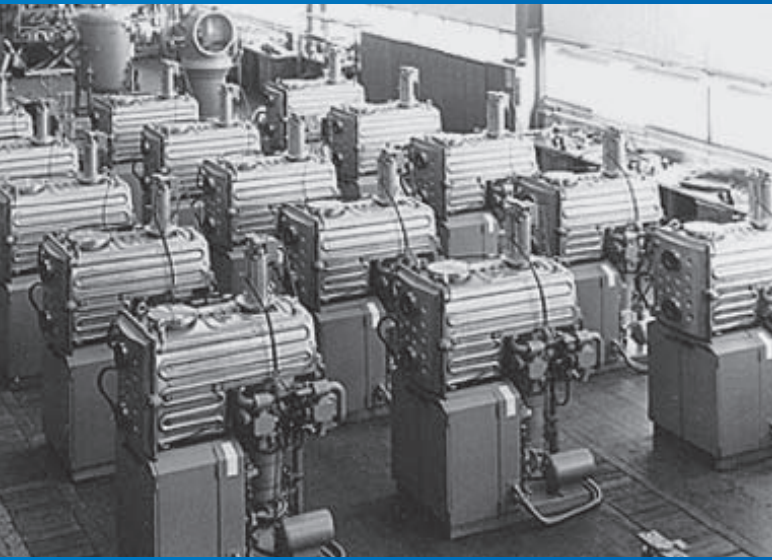


# BAK

RETROFIT

Platform Control  
Process Control  
E Gun Technologies  
New Opportunites

# A SUCCESSFUL PAST AND AN EVEN MORE PRODUCTIVE FUTURE



The “BAK” name may be 50 years old but with the choice of more deposition and control technologies than ever before, there’s never been a better time to bring your existing BAK up to the latest standards to achieve new levels of process control and yield in deposition of metals, oxides, TCOs and compounds.

## WHY RETROFIT

- › Enable new complex processes
- › Improved process yields
- › Increase uptime
- › Track your processes – data logging & QA
- › Replace obsolescent parts

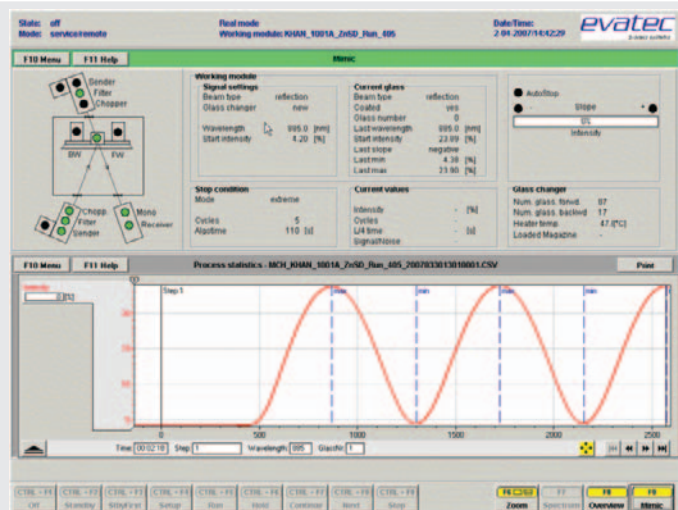


# ENHANCING COATER PERFORMANCE

Achieve new levels of coater performance through upgrades in four distinct areas

- ✓ Platform Control
- ✓ Process Control
- ✓ E Gun Technologies
- ✓ New Opportunities

## ENHANCING COATER PERFORMANCE



### Platform Control:

From BPU 100, 421 & 430 to Khan Server

### Process Control:

From XTC/A, B and C to QCM 500  
From GSM420 to GSM1101  
Broadband

### E Gun technologies:

From 100 or 200 to 500 Series

### New Opportunities:

A whole host of options -  
From Flip systems to PIAD

## A COMPLETE HEALTH CHECK FOR YOUR COATER AS STANDARD

Evatec retrofits take care of all the little details “as standard”, and our packages can be customised with “step by step” approaches to fit your timescale and budget.

- ✓ Replacement of feedthroughs & cabling to modern standards
- ✓ Replacement of media distribution systems
- ✓ Updating of vacuum gauging systems
- ✓ Supply of full documentation and training



# PLATFORM CONTROL

## THE FUTURE IS “KHAN”

Robust server technology with RAID for built in security lies at the heart of Khan. A single software interface integrates all aspects of vacuum, deposition sources and process control with quartz or optical monitoring for easy operator use.

### KHAN GIVES YOU

- » Complete process automation – from door close till vent
- » Individual user log in and rights
- » Data logging for full traceability with external connectivity according SECS GEM protocols
- » Management of processes, fault finding and system maintenance



### MANUFACTURING MODE



- ✓ Individual user log in and password with safe system commands
- ✓ Recipe viewing and selection
- ✓ Viewing and downloading run statistics

### SERVICE MODE



- ✓ Full system control including all facilities of manufacturing, maintenance and process modes
- ✓ Full digital I/O control and user log tracking
- ✓ System configuration changes

### PROCESS MODE



- ✓ Process definition and editing
- ✓ Intervention in “active” process in “safe” environment

### MAINTENANCE MODE



- ✓ Definition of maintenance prompts, eg. shield changes, pump and valve maintenance
- ✓ Manual set up and adjustment of process sources

## TAKE A LOOK WHAT'S INCLUDED

### From BPU to Khan Server



- ✓ Complete new control and power rack
- ✓ Industrial server with DVD-RW
- ✓ 19” TFT display, keyboard and mouse
- ✓ Vacuum valve and gauge upgrade package
- ✓ Upgraded quartz controller QCM500
- ✓ Upgrade to rotary drives BD124 or BD223
- ✓ System recabling
- ✓ New services manifold- water, gases etc.

### From Khan DOS & NT to Khan Server



- ✓ Complete server upgrade 2 x hard drive
- ✓ DVD ROM drive
- ✓ 4 port USB 2.0 hub
- ✓ Phoenix IO nodes, analogue/digital
- ✓ Ethernet to RS232 gateway
- ✓ 19” TFT display, keyboard and mouse
- ✓ Cables, installation materials
- ✓ Schematics (additional to the original schematics)

# ADVANCED PROCESS CONTROL

Achieve more precise thickness control, tighter control of distribution across the coating dome and better run to run repeatabilities than ever before using Evatec's portfolio of process control technologies.

## More accurate quartz control



### UPGRADE FROM XTC B/C OR E TO QCM500

- higher sampling rates for improved termination accuracy, 5 or 6 MHz operation
- control up to 4 heads in co-deposition or complex processes



### SINGLE, 6 OR 12 WAY HEADS

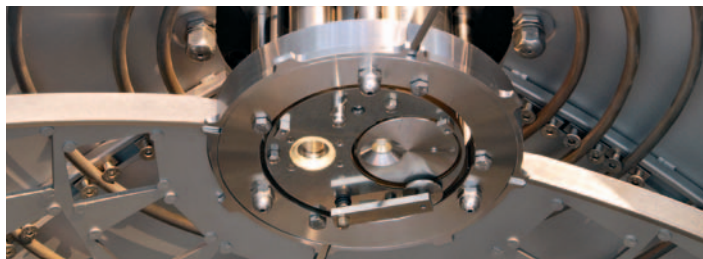
- faster switch between crystals during process for improved accuracy
- 12 way head for extended process capability



### CHOPPER TECHNOLOGY

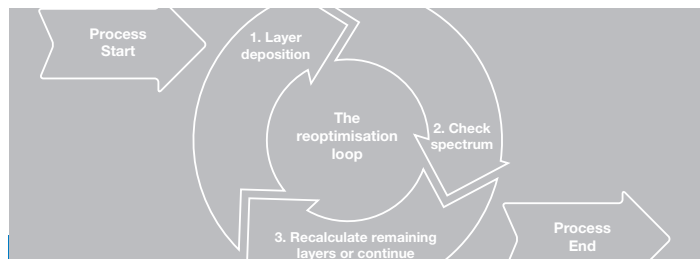
- Thick layers and stacks
- Single or multihead options

## Direct measurement of optical performance



### UPGRADE TO THE LATEST GSM1101

- Optimised ranges for UV, VIS & IR
- Test glass changer or direct measurement on the substrate during deposition



### IN SITU RE-OPTIMISATION

- Fine tune optical processes during deposition itself
- Tighten optical production tolerances
- Improve run to run repeatability

## A more controlled process environment



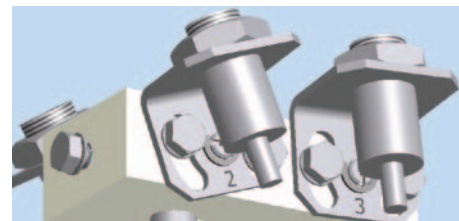
### FAST TRACK UNIFORMITY CALCULATIONS

- Model your multi source processes to optimise shaper design
- Maximise deposition rates for shortest process times



### NEW HEATING SOLUTIONS

- Multi-zone heating on front and / or backside
- Backside planetary heating solutions



### IN SITU OPTICAL PYROMETRY

- Direct substrate measurement during process from
- Tighter tolerances from outside to inside edge of calotte

# E GUN TECHNOLOGY

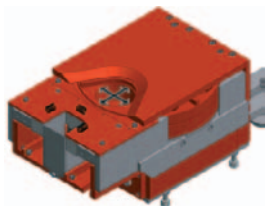
## AT THE HEART OF YOUR BAK

Solid state power supplies and full digital beam sweep for improved process control come as standard. New options including larger capacity crucibles, wire feeders or cooled crucible covers mean you can now achieve extended stack thicknesses or lower process temperature on sensitive substrates.

### EBS500 GIVES YOU

- Complete process flexibility for metals, oxides, TCOs and compounds with access to Evatec know how
- Lower materials utilisation
- Lower thermal loads
- Bigger ESQ213 gun bodies

#### The EBS 500 rack equipped with:



- High voltage power supply EHV 500
- Filament power supply (s) EFS 500
- Coil power supply (s) ECS 500
- EEC500 incl. remote control ER050
- ESQ212B or ESQ213 gun bodies
- High voltage feedthrough (s)
- Full set of cabling
- New services manifold for water, compressed air and process gases

#### Options

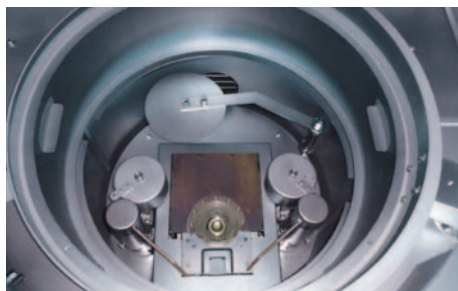
- Cover configurations
- Crucible configurations



# NEW OPPORTUNITIES

## A WHOLE SERIES OF ADDITIONAL RETROFIT OPTIONS

Expand your deposition and etch options



### Wire Feeder

Achieve thicker layers in e gun deposition



### Barrel Source

Work with layer thicknesses up to 1000 microns



### Etch

Integrate high uniformity etch capability in addition to deposition

Enhance your thin film performance



### In situ stress control

Keep stack stress within your limits



### Vacuum Management

Retrofit of Diffusion, Cryopump or Turbomolecular Pumping Systems and integration of RGAs



### PIAD

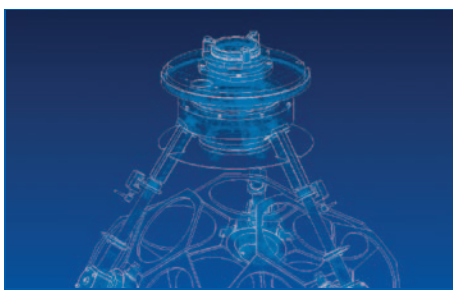
Improved film stabilities, lower temperatures and shorter process times

Enhance your system throughput



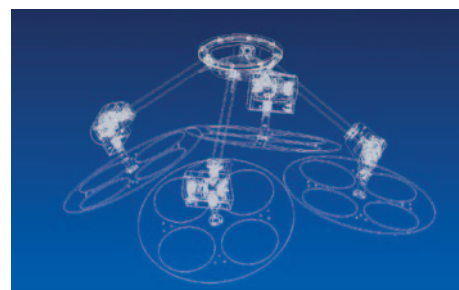
### Knudsen planetary

High throughput metallisation



### Flip system

Double sided deposition without vacuum break



### Custom rotation and tilt

Custom rotation and tilt systems



## ABOUT EVATEC

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Evatec offers complete solutions for thin film deposition and etch in the optical and semiconductor markets. Evatec engineers are able to offer practical production advice from R&D to prototyping and mass production. We recognize that no single technique offers the answer to all problems.

With a technology portfolio including standard and enhanced evaporation as well as sputter, we are ready to offer sampling services and custom engineering to meet our customers individual needs.

We provide sales and service through our global network of local offices. For more information visit us at [www.evatecnet.com](http://www.evatecnet.com) or contact our head office.

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