

INTRODUCING APAGCoSyst

Our services, quality focus, values, and forward-looking plans, 2026



ISO 9001:2015
ISO 14001:2015
ISO 45001
IATF 16949:2016
ASPICE level 2

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WHO WE ARE

APAGCoSyst 2026 – Our services, quality focus, values, and forward-looking plans

APAGCoSyst Electronic Control Systems is a dynamic, Swiss, global electronics & lighting technology firm

- Technology solutions for **automotive, medical, and industrial**
- **Design, develop, and manufacture** lighting and control units
- 500+ team across 9 locations

- **Guided by our CREDO** with the 5Cs:
Consideration, Commitment, Creativity, Cohesion, Character
- **High quality** with single digit **PPM** levels
- Certified ISO 9001, ISO 14001 (environment), ISO 45001, IATF 16949 (automotive), and familiar with ISO 26262 (functional safety) relevant control units

We specialize in

- **Lighting** (interior & exterior design and peripheral function lighting modules)
- **ECUs** (comfort/luxury function smart actors, smart sensors, and human machine interfaces)
- **Industrial Automation** (customized automation solutions for electronics industry)
- **EMS** (electronic manufacturing services – industrialization & build to print)



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We have a quality & service focus – which combined with design & industrialisation prowess is a key ingredient to success

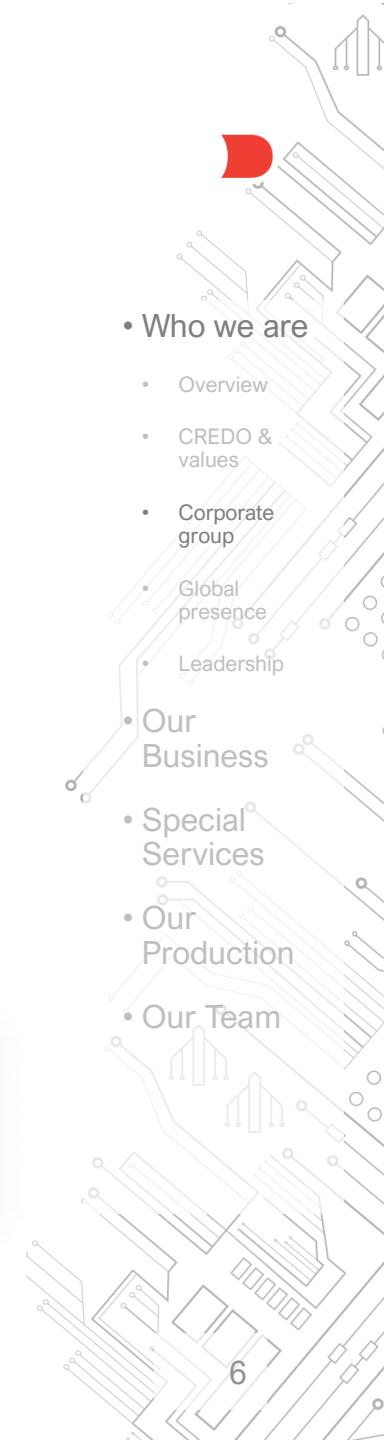
Long-term relationships, not having lost a customer since 2012	Guided by our CREDO with its 5Cs	Dynamic and entrepreneurial but grounded in structured processes that ensure high quality	 <p>1. CONSIDERATION</p> <ul style="list-style-type: none"> • Understand other's perspectives and points of view • Embrace diversity in thought, age, gender, ethnicity, or any other personal orientation • Be honest and authentic • Treat people as we would want to be treated • Empower people
Full-service R&D (including hardware & embedded software development, lighting/optical & mechanical designs, and testing)	Our customers bring an idea, we provide a product.	Flexible, custom solutions in PRODUCTION (DfX, proprietary tooling/automation and test systems development and production)	 <p>2. COMMITMENT</p> <ul style="list-style-type: none"> • Give our best • Be reliable • Be fully present and involved in meetings • Make it happen and stay till it is done • Provide a consistency of service to customers, suppliers and colleagues
Design, development partner & contract manufacturer that deeply understands electronics	Driven to Deliver Excellence	Automotive & medical supplier with safety critical product experience that understands quality, reliability, and delivery	 <p>3. CREATIVITY</p> <ul style="list-style-type: none"> • Think beyond our work about how we work, why, and about what we can improve • Have a positive attitude • Inspire others to think beyond their work • Encourage open sharing and feedback • Look at the root cause of issues and opportunities  <p>4. COHESION</p> <ul style="list-style-type: none"> • Work toward the common goal and benefit • Be vulnerable in truly showing ourselves • Really care about our colleagues and our relationship with them • Trust and be trustworthy • Make the workplace happy for us, our teams, and our colleagues beyond our teams  <p>5. CHARACTER</p> <ul style="list-style-type: none"> • Have a customer focus • Create output we are proud to author • Take responsibility for our work • Help rather than blame or accuse • Breathe quality – work in the same way whether or not somebody is watching

Operationally independent, our investors are well-respected, and values-driven corporate groups with diverse interests – giving us financial stability

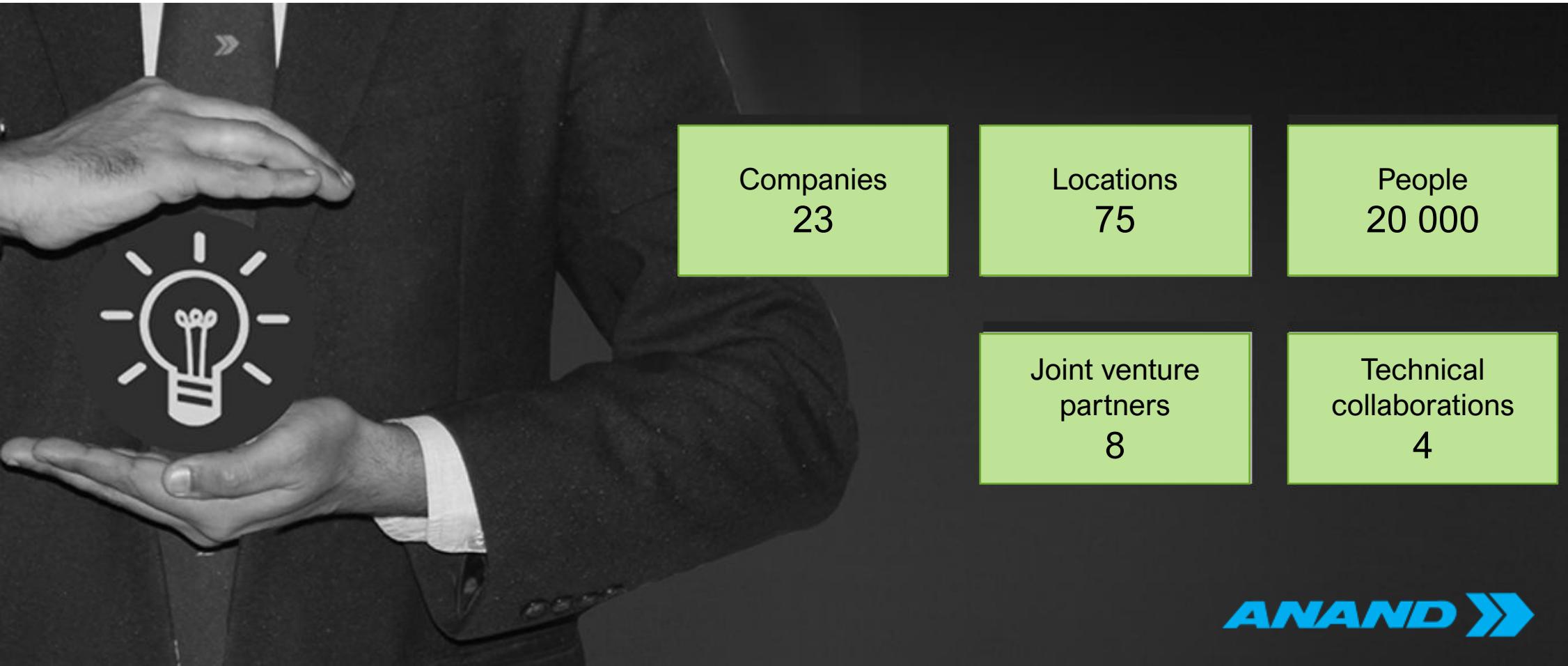


KPL INTERNATIONAL LIMITED

APAGCoSyst 2026 – Our services, quality focus, values, and forward-looking plans

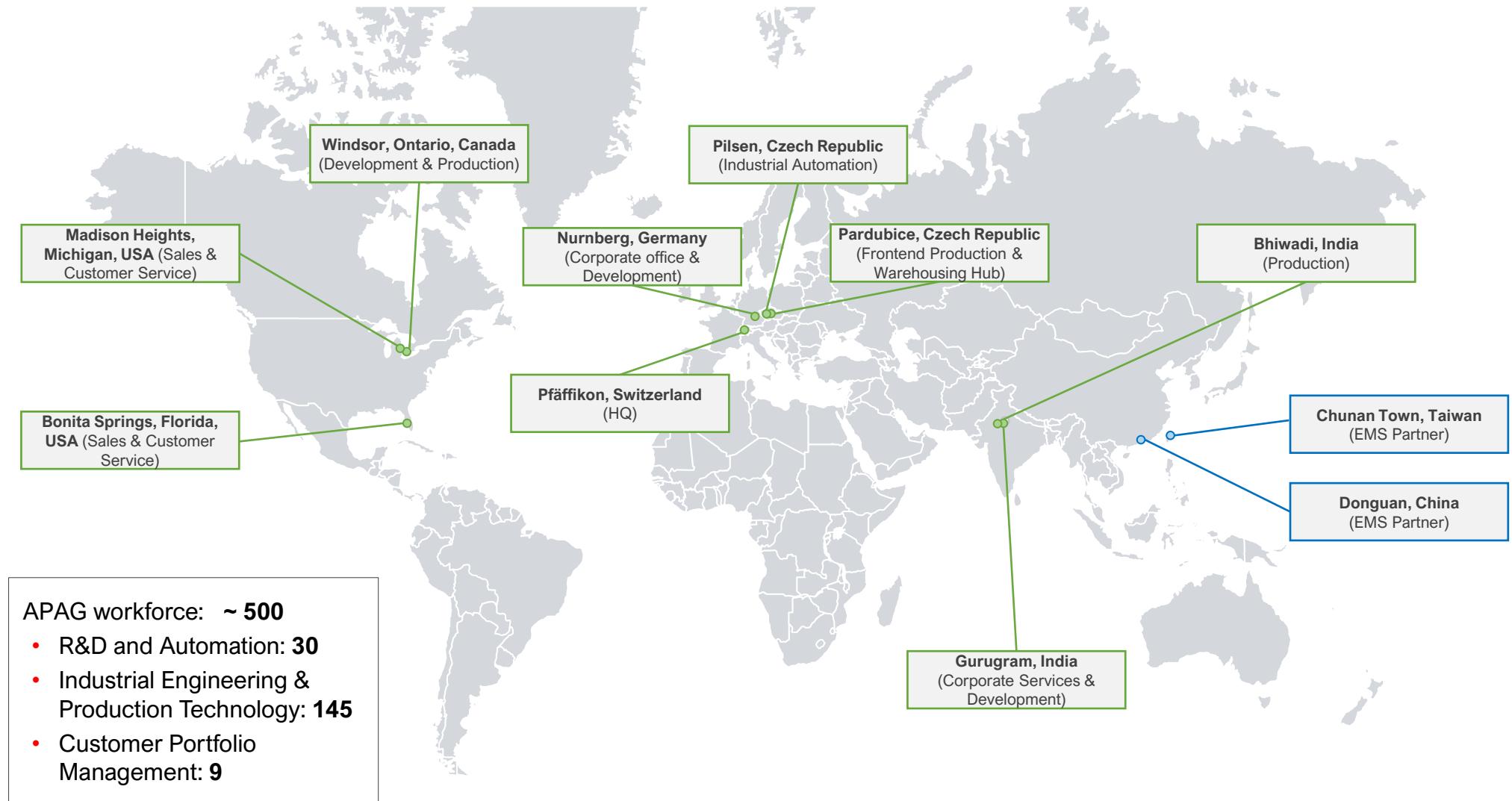


Our strength comes from the ANAND Group, one of India's leading automotive systems companies



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Driven by market demand and talent availability, we have established a global presence to best serve global customers



We are led by a diverse team with varied experience but an equally high passion to deliver excellence



Anand Kanoria
Managing Director

Experience and Expertise:

- Since 2013 at APAGCoSyst
- Over 10 years in the automotive industry
- Prior roles in consulting (McKinsey & Co, Accenture) and product strategy (Volkswagen of America)

Strategic Insight and Leadership:

Extensive experience in organizational strategy, financial and supply chain consulting, and product strategy, driving business growth and innovation.



Dr. Tiemo Bückmann
President Operations - R&D, Manufacturing, Automation and Portfolio Management

Experience and Expertise:

- Since 2018 at APAGCoSyst
- Over 10 years in the automotive sector (OEM, EDL, and supplier)
- Specializing in automotive development, lighting and optics, serial production, and operational leadership

Scientific and Technical Leadership:

Extensive expertise in research, innovation, and advanced technology, with a strong technical foundation that supports complex business decisions and strategic direction in automotive operations.



Laurentius Michielse
President Corporate Services - Finance, HR and Procurement

Experience and Expertise:

- Since 2017 at APAGCoSyst and in the automotive industry
- Over 25 years of experience as a CFO across various industries
- Operations leadership experience in the industrial sector

Strategic Financial Leadership:

Extensive expertise in financial management and operational strategy, driving business success through economic insights and leadership in complex industries.

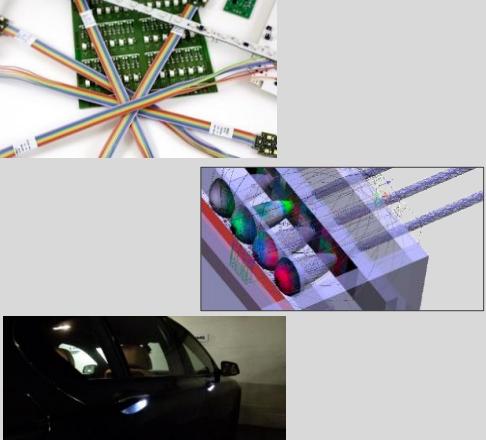
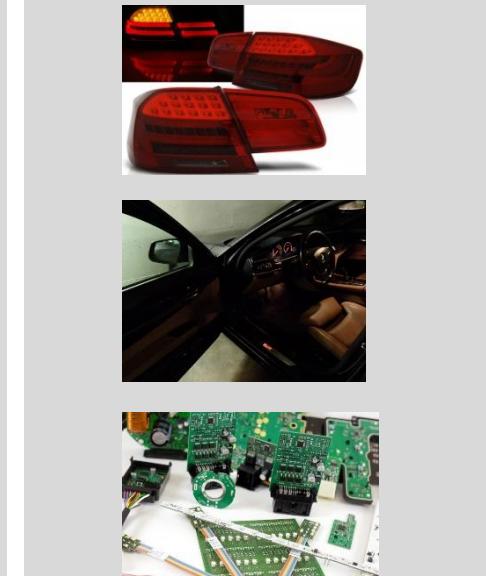
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OUR BUSINESS

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We divide our business into four units – Lighting, ECU, Industrial Automation and Electronics Manufacturing

Lighting	Electronic Control Unit (ECU)	Industrial Automation	Electronic Manufacturing Service (EMS)
<ul style="list-style-type: none">✓ Interior & exterior feature illumination✓ Comfort functional lighting  <p>Design & Development, Manufacturing concepts and production</p>	<ul style="list-style-type: none">✓ Smart actor/HMI control✓ Smart sensor control✓ Advance Lighting control✓ Multi-function gateway  <p>Design & Development, Manufacturing concepts and production</p>	<ul style="list-style-type: none">✓ In-line laser depaneling✓ Thermal pad cut + pick and place✓ Customised automation solutions✓ for electronics industry  <p>Design for automation, Design and integration</p>	<ul style="list-style-type: none">✓ High quality PCB assembly✓ Box build and assembly services  <p>Design for Manufacturing consulting and production</p>



Our in-house Industrial Automation team are experts in designing and building customized assembly lines for high-volume production

A growing team of experts

- Established in 2018
- 11 projects brought to life (as per November 2022)
- Support available from 3 locations in Europe and North America
- 1 patent granted + 1 pending

A safe choice

- Only proofed & approved designs are offered externally
- All our designs are CE and UL/CSA compliant

We understand your EMS products

- Design department located in APAG Development center (DE)
- Machine development in close cooperation with our EMS factories
- Machines tailored to the needs of our EMS activity

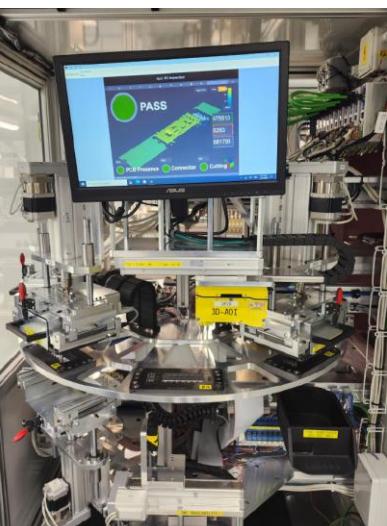
A diverse set of tools & expertise

- Mechanical Design: SolidWorks Premium, Catia
- Programming: Siemens TIA Portal v15 to v17
- Wiring: SolidWorks Electrical
- Testing: Labview, TRI, Canoe
- AOI: Cognex In-Sight Explorer, In-Sight Vision Suite
- Welding, soldering, machining available in-house



Top and bottom gantry (AOI)

Fully automated depanelization, P&P, AOI, testing & packaging



Multi-operation carousel table



ALU Gen3, the ultimate solution to all your small-sized PCB cutting needs



Our in-house line in action <https://www.youtube.com/watch?v=rkqEUM4k7lw>

We focus on a niche in our business units helping us be the best in the areas in which we work

Automotive	R&D ECUs	<ul style="list-style-type: none">Smart actors driving motors/actuatorsSmart sensors processing and providing driver feedback (incl. ASIL)Autonomous driving feature ECUs (ADAS)Augmented reality feature ECUs
	R&D Lighting	<ul style="list-style-type: none">External and internal feature lighting for peripheral applications (APAG expertise in 'climate-proofing')Portions of OEM light packages non-core for large tiersNext generation intelligent lighting – intersection between ECUs and lighting for design, comfort, and safety applications
	EMS	<ul style="list-style-type: none">Mid to high volume complex assemblies needing custom automation for post standard processesHigh profile projects requiring risk redundancy with split-location production within APAG as a single source instead of dual supplier models to avoid double project costsPortfolio diversification such as rear light combinations (RLC)Platform lighting requiring variant management and global supply (e.g. Overhead consoles)
Industrial	EMS	<ul style="list-style-type: none">Marine lighting (APAG expertise in 'climate-proofing')Non-automotive lighting controllers or non-core sub-components of full modules
Medical	R&D ECU, Lighting	<ul style="list-style-type: none">Medical device subcomponentsSensor controllersUV-C lighting and disinfection technology
	EMS	<ul style="list-style-type: none">Mid to low-volume non-invasive medical device PCB assemblySubcomponent box-builds



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 - Our niche
 - Where we are headed
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We constantly follow industry trends to continually update and follow our vision for the medium term

Lighting	Electronic Control Units (ECUs)	Industrial Automation	EMS
<ul style="list-style-type: none"> ✓ More diverse interior & exterior feature illumination ✓ Light fiber concepts ✓ Static and dynamic light systems ✓ Broader portfolio of functional lighting (HBL & integ. lights) ✓ Interior lighting concepts including ASIL (ADAS) ✓ UV-C medical Systems ✓ Advanced high-quality industrial lighting 	<ul style="list-style-type: none"> ✓ Smart Sensor data acquisition for safety critical functions ✓ Multi-function gateways coordinating core and comfort functions ✓ Advanced lighting controls ✓ HMI systems (interactive displays) ✓ Broader spectrum of ADAS sub-systems 	<ul style="list-style-type: none"> ✓ Full automation of box-build lighting systems ✓ Develop further our expertise in automation of tiny parts ✓ Leverage our unique technology for cutting and application of Thermal Pads ✓ Standard solutions for semi and fully automated testing 	<ul style="list-style-type: none"> ✓ Small systems manufacturing (custom post SMT and THT assembly lines, custom testing solutions, complex product finishing, and box builds for full component assemblies) ✓ Early stage DfX ✓ High-precision assemblies for core functional lighting ✓ Safety-critical components ✓ Printed electronics ✓ Molded Interconnect Devices

System design

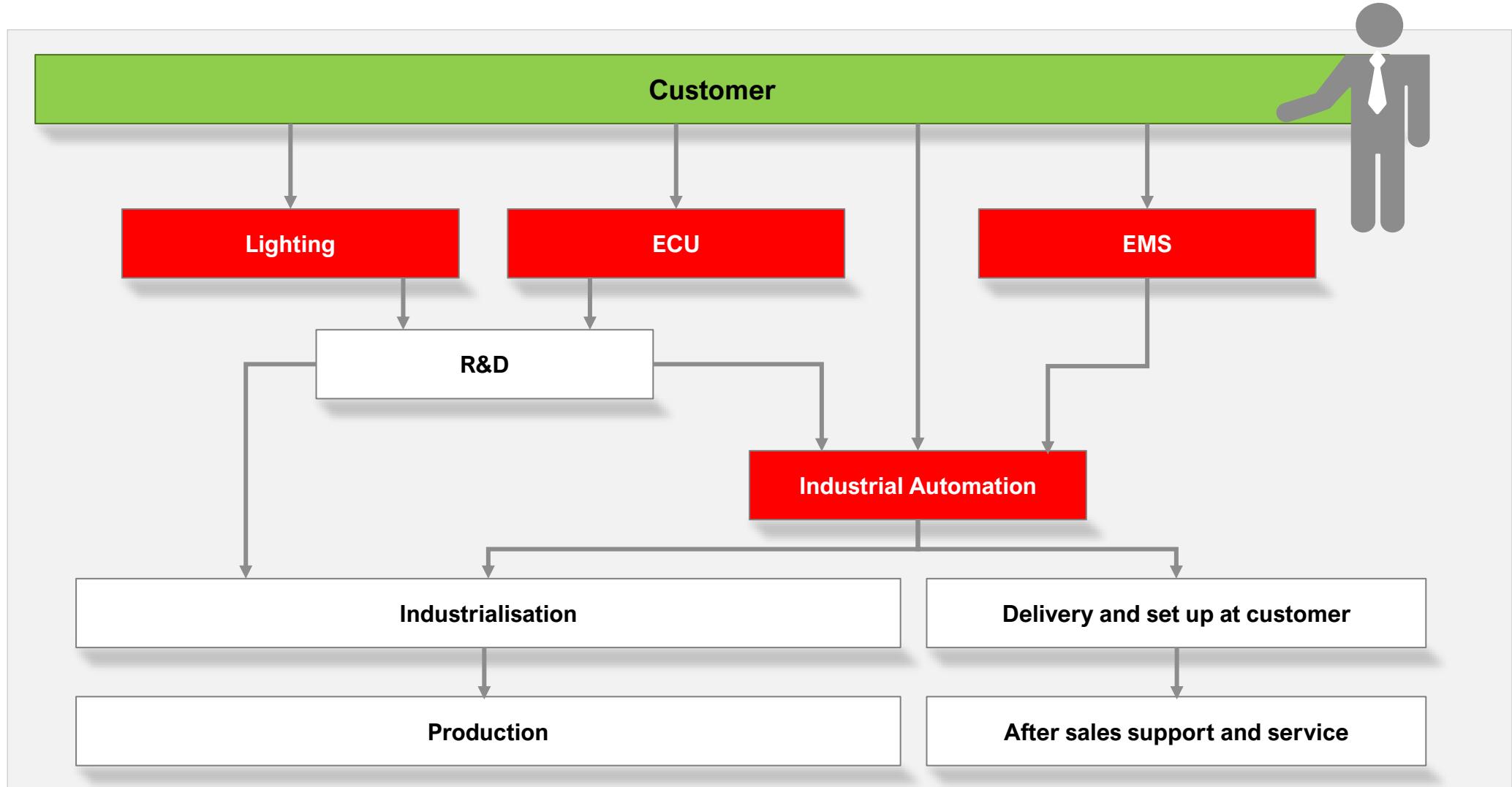
- ✓ Design and develop full systems
- ✓ Propose unique, optimized solutions to customers
- ✓ Integrate software, hardware, light and mechanics



- ✓ Full systems understanding
- ✓ Integration of multiple process steps possible
- ✓ Systems thinking & system-level coordination



APAGCoSyst offers a one-stop solution for customers from engineering to production



Our customers come from various industry sectors



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Our development capabilities prepare us for range of projects (1/2)

International Project Management

- International based Project management (Europe, North America, India), 24h support
- Agile Project management is standard, and will be tailored to customer needs
- Automotive SPICE conformity process (ISO/IEC 15504) to level 2
- DOORS requirements management
- Automotive standards are respected (Phase model / V-Model / FMEA)
- Development and industrialization are linked from the project start allowing short project timings
- DFM guidelines are respected from the start of concept.
- Global representatives for each customer ensure customized support around the globe



Testing & Validation

- Light-laboratory and strong test-lab cooperation
- System testing (HIL, Teststand, LabVIEW, LabWindows CVI, Vector)
- Environmental testing, HIS, MISRA
- Series test system design & implementation
- EMC Testing
- EVM with Partner Laboratories



Functional Safety

- Experience with safety relevant design based on ISO 26262
- ASIL conformity with project responsibility up to level B



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Our development capabilities prepare us for range of projects (2/2)

Hardware Engineering

- Digital and analogue circuit design
- Circuit simulation and calculation (e.g. Pspice)
- PCB Design (PADS)
- Prototype design, small-lot production on serial equipment possible
- 24h support possible due to worldwide project team
- AI based circuit design under evaluation
- Power electronics motor control
- Gateway electronics for inter system communication
- Light control units for exterior and interior light functions incl. ADAS
- FPGA/ASIC-Design in VHDL-AMS
- Microcontroller (up to 32 bit) and dual core processors
- Communication interfaces (CAN, LIN, bluetooth, embedded wireless, Ethernet and Flexray)

Software Engineering

- ASPICE level 2 compliance
- Programming and integration of operating systems, drivers, diagnostic modules and bus interfaces
- Analysis, design, implementation (UML, C)
- Integration of customer Software possible
- Integration, verification, validation (Black/White box, Units-test)
- SW lifecycle service
- Full AUTOSAR 3.x and 4.x BSW integration
- Embedded ASR conforming application development
- Configuration or operating software (VB or Visual Studio VC++)

Optical & Mechanical Design 3D

- Light-fiber concepts & light-guide designs accounting for uniformity, intensity, & heat management
- Housing concepts for electronic assemblies including connectors
- Potting and sealing options available
- Thermal integration / dissipation with simulation
- Inhouse light simulations (Light tools)
- Mechanical interface (Catia, Solidworks)
 - Smaller exterior optics design
 - Larger interior designs
 - Light laboratory
 - Lightguide concepts
 - Freeform optics
 - Integrated systems (optics, thermic and mechanic)



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We are equipped to manufacture your high-quality electro-mechanical modules

Component Technology	<ul style="list-style-type: none">Surface Mount Technology (SMT) with zero board handling (Fuji) – Solder Paste Inspection (SPI) in all SMT lines (Koh Young), 2 or 3D Automated Optical Inspection (AOI) in all SMT lines (Koh Young, Viscom)Pressfit (Action pin) TycoStandard manual through hole (THT)Ball Grid Arrays (BGA), Pin Grid Arrays (PGA), Quad-Flat No leads packages (QFN), Quad Flat Packages (QFP)	
Soldering Technology	<ul style="list-style-type: none">Selective soldering, nitrogen assisted wave soldering, nitrogen assisted reflow soldering, robotic & hand soldering, laser soldering	
Product finishing	<ul style="list-style-type: none">Conformal coating/varnishing with IR and UV curingPoly-urethane and silicone potting/sealingOvermolding and underfill	
Testing	<ul style="list-style-type: none">AOI (Automated Optical Inspection), X-Ray, ICT (In-Circuit Testing), FUT (Functional Testing), ECT(End Control Testing), screening	
Printed Circuit Board handling capability	<ul style="list-style-type: none">Single layer and multilayer PCBs, rigid, semi-flexible & flexible PCBsUnique LASER printed QR code on every PCB and panel to ensure component level traceability during process and post production	
Production Flexibility	<ul style="list-style-type: none">High and mid volume lot sizes, flexible variants based on size and shape of PCBsMechanical housing/harness assemblyBox build & finishing assembly (with customized automation for high volumes)	
Warehousing	<ul style="list-style-type: none">Dust-controlled, ESD , pressurized stockroomPaternoster tower with automated identification for component storage (Kardex)Component repackaging from paper boxes prior to production hall entry	
Industrial Automation	<ul style="list-style-type: none">SolidWorks Mechanical (design), Electrical (schematics), Composer (Documentation), TreeHouse (export)Siemens Simatic Professional (PLC programming)	

Traceability & Quality Management

100% automated interlocking traceability system (*iTAC*)
Dedicated internal quality management team



SPECIAL SERVICES

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In addition to our differentiation through development, we also offer value-added services in production

1. Design for manufacturing (DfM)

- Analysis with a focus on ensuring quality and optimising cost based
- Begins with a gerber review for PCB layout and includes complete manufacturing process analysis

2. Design for Testing (DfT)

Is the PCB layout ready to meet ICT and FCT requirements?

3. BOM lifecycle analysis

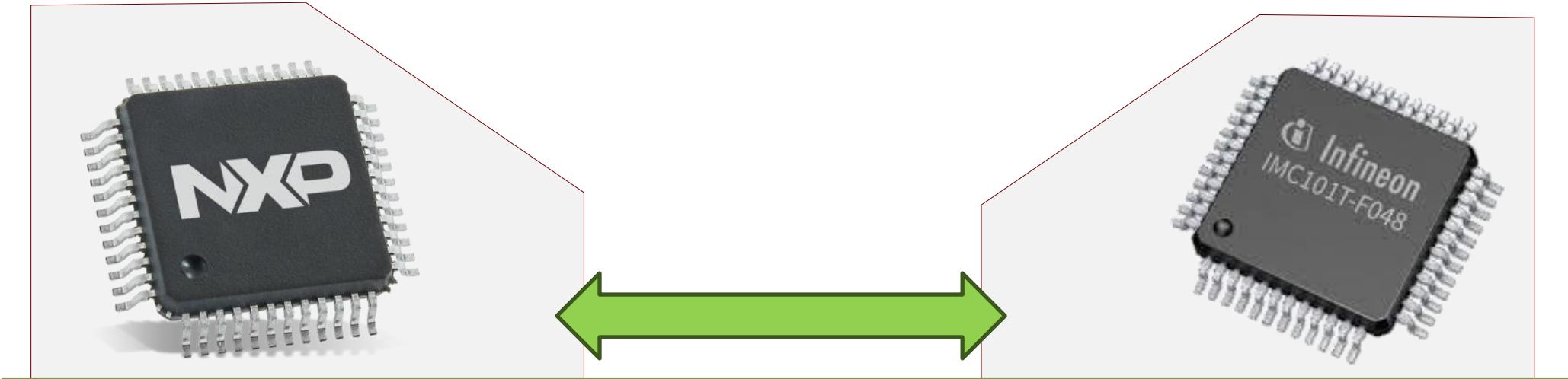
with a focus on ensuring on time availability and design (component choice) sustainability

- Based on extensive research through the global supplier network
- Includes recommendations/alternatives following the business award



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Our expert R&D team supports our customers with design-in of alternative components (such as µP) available on the market



- Alternative components are available on the market but require sophisticated, customer released engineering processes
- Benefit for the customer: lower overall cost, due to the sufficient availability of the alternative components (e.g. semiconductors) on the market, and therefore no need to source from expensive brokers
- Our suggested alternative components are based on customer released list and use customer certified engineering processes incl. DFMEA, PFMEA, Obsolete Material Mgt, Validation

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OUR PRODUCTION

Industry 4.0 – Welcome to APAGCoSyst's smart factory

Building

- Lean production including 5S workplaces
- Dust controlled pressurized production hall (VDA 19-2 production)
- Temperature and humidity-controlled production and warehouse
- ESD Flooring
- ESD conformant workplaces and production equipment
- Segmented production for minimization of contamination
- Ionic contamination control
- No cardboard/open paper in production
- All automated Doors



Smart manufacturing processes

- Component level traceability with process interlocking
- Live feedback to operators about performance and quality
- Live link of production output and quality
- Customised industrial robot at each key process
- Six-Sigma production with ~100% test coverage for automotive
- Dynamically planned preventive maintenance



Smart manufacturing monitoring

- In house designed software (SESO) for tracking and monitoring
- Customisable digital boards for every sector of the manufacturing site preventing information loss
- Real-time Production Data: MES provides real-time data of production models, station, project quality inspection, and automatic alert and recording of production issues
- Real-time Production Warnings: When actual production deviates from the set target and produces abnormality, UMS will give real-time feedback and alerts to managers.
- Real-time Repair tracking: Using the live data, executive staff can resolve issues arising in a timely manner with transparent overview tracking minute by minute actions
- Daily internal reviews of production including automatic action plan tracking in

Our focus: 1) Low cost, 2) High quality, 3) High transparency, 4) High consistency

Our results: World class quality: PPM = 3 ppm (2021) Yield rate over 98%

We have access to state-of-the-art production facilities in Czech Republic (ACZ), Canada (ACA) and India (AIN) (1/3)

Pardubice, Czech Republic

Location is an established industrial site

- 17,000 sqm of land
- 4,500 sqm of production + stock
- 1,200 sqm of administrative space

With existing detailed plans for further 1,300 sqm of production + stock in phase III (phase II expansion already happened)



Pilsen, Czech Republic

Location is a focused hall in an industrial site focused on assembly of custom, proprietary automated assembly lines



Windsor, Canada

Location is a one-storey 3,000 sqm facility near the US border, just across the river from the automotive center of Detroit.



Bhiwadi, India

Located in the RIICO Industrial Area. Emphasizes environmentally sustainable operations, including being water-neutral, and uses advanced technologies like AI and machine learning.

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 - Facilities
 - Available technologies
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We have access to state-of-the-art production facilities in Czech Republic (ACZ), Canada (ACA) and India (AIN) (2/3)



Production conditions

- Pressurised for dust repulsion
- ESD access controlled & secure
- State-of-the-art ESD flooring
- Temperature & humidity controlled
- Technical cleanliness in conformity with VDA19.2

Traceability technology

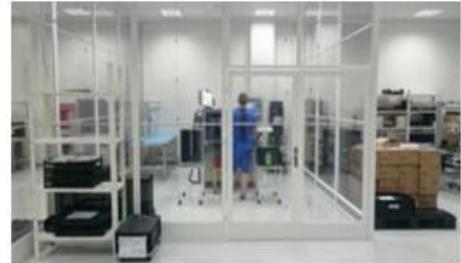
- Laser marking
- Automatic labelling line

Surface mount technology

- Separated SMT area with independent temperature & humidity control
- 9 high-speed state-of-the-art SMT lines (with existing space for 6 more)
 - Laser DMX coding
 - Fuji NXT, NXT II & NXT III pick & place machines
 - 10 zone Rehm reflow ovens
 - Closed loop Koh Young 3D SPI
 - In-line Viscom/Koh Young (2D, 3D) AOI
 - 1 line with X-ray for BGA production
- No manual handling through entire SMT process
- 1 line dedicated to sample & small series
- 100% component level traceability integrated via equipment software, plant-wide interlocking traceability system & corporate ERP
- Depaneling options: milling, V-cut, stamping, pizza cutter, laser cutter
- Separate milling room with independent vacuum cleaning for dust protection



We have access to state-of-the-art production facilities in Czech Republic (ACZ), Canada (ACA) and India (AIN) (3/3)



Through hole technology

- Wave soldering & Selective soldering & Laser soldering
- Press pin technology: Tyco action pins & Autosplice pins

Product finishing & testing technology

- Conformal coating/varnishing line with IR and UV curing
- State-of-the-art testing area with AOI THT, ICT Tester, Functional testers

Assembly technology

- Injection moulding
- Custom assembly lines for high-volume production including placement soldering, heat staking, testing and automated packaging

Warehouse technology

- Pressurised, temperature & humidity controlled warehouse
- Paternoster vertical component storage tower connected to interlocking traceability system and production planning system

Industrial automation technology and toolchain

- SolidWorks Mechanical (design), Electrical (schematics), Composer (Documentation), TreeHouse (export)
- Siemens Simatic Professional (PLC programming)
- Cognex In-Sight and Designer suites (camera inspection)
- Machine FMEA - APIS
- Manual milling, drilling and sawing machines available
- Independent production facility for line/tooling manufacturing

Our available technologies ready to deliver your projects

SMT lines and machines

- 9 SMD FUJI, NXT lines for serial production
- Reserved space for next 6 SMD lines
- 5 laser lines Nutek LMC-S3
- Printer EKRA X4 Prof, Serio 4000, DEK Horizon 01i, MPM
- SPI Koh Young KY 8030
- Pick and place platform FUJI NXT II, III – 4-6 modules in each line including Glue head and Label feeder
- Reflow Rehm V8, VXP, Heller 1936, Centurion 1040
- 2D AOI Viscom 6055
- 7x AOI 3D Koh Young Zenith
- 2D AOI THT SAKI
- Cleaning conveyors TEKNEK, YJ Link
- Transport conveyors ASYS, YJ Link
- Automatic stencil cleaning machine
- Automatic labelling line

Injection molding

- Arburg Allrounder 370 E 600-100 Golden Electric

THT lines and machines

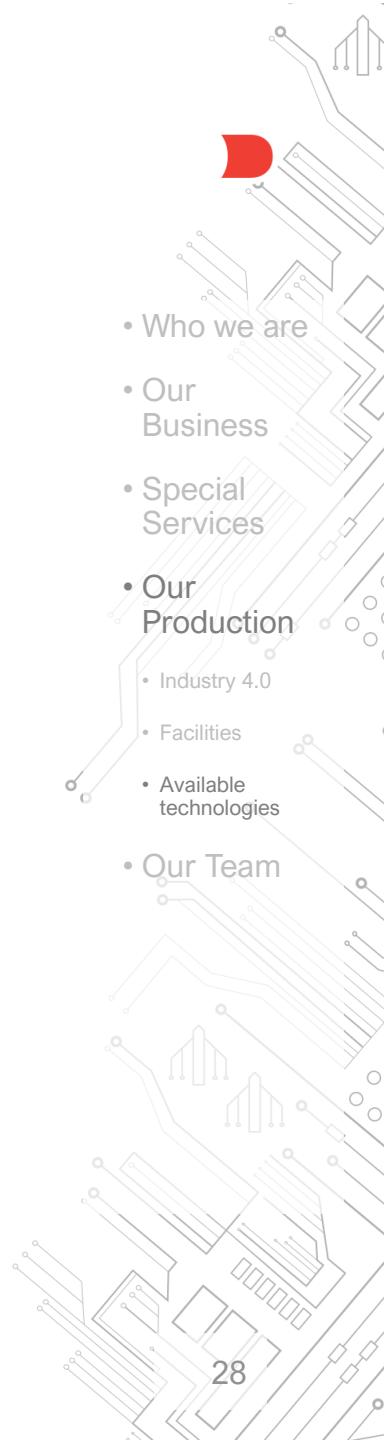
- 6 guillotine V-cut cutting machines FROST
- 5 CNC milling cutter ASYS Divisio 2100, Aurotek
- 2 Action pin machines TYCO P300
- ERSA Powerflow, 2 SEHO 8140, SEHO Powerwave solder waves
- ERSA Versaflow 3/45, 4/45 line 1, 2 solder pot
- Inertec Cube selective soldering
- THT AOI SAKI BF Sirius, 2Di-LU1, BF-10BT
- IR selective coating line
- UV selective coating line

Test equipment

- 9 Aeroflex 5800 ICT test systems
- 2 Teradyne ICT test systems
- 3 universal functional APAG testers
- 55 unique functional and end control testers

Assembling lines (OVT)

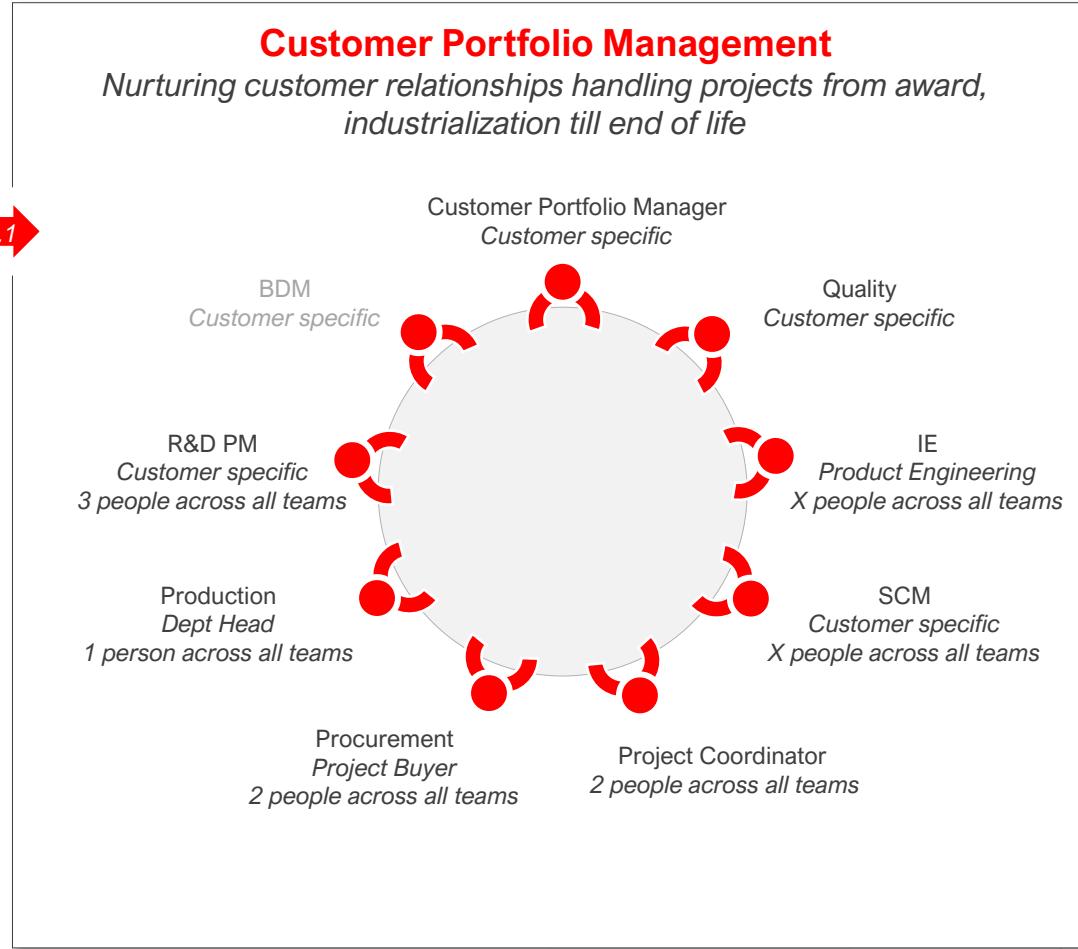
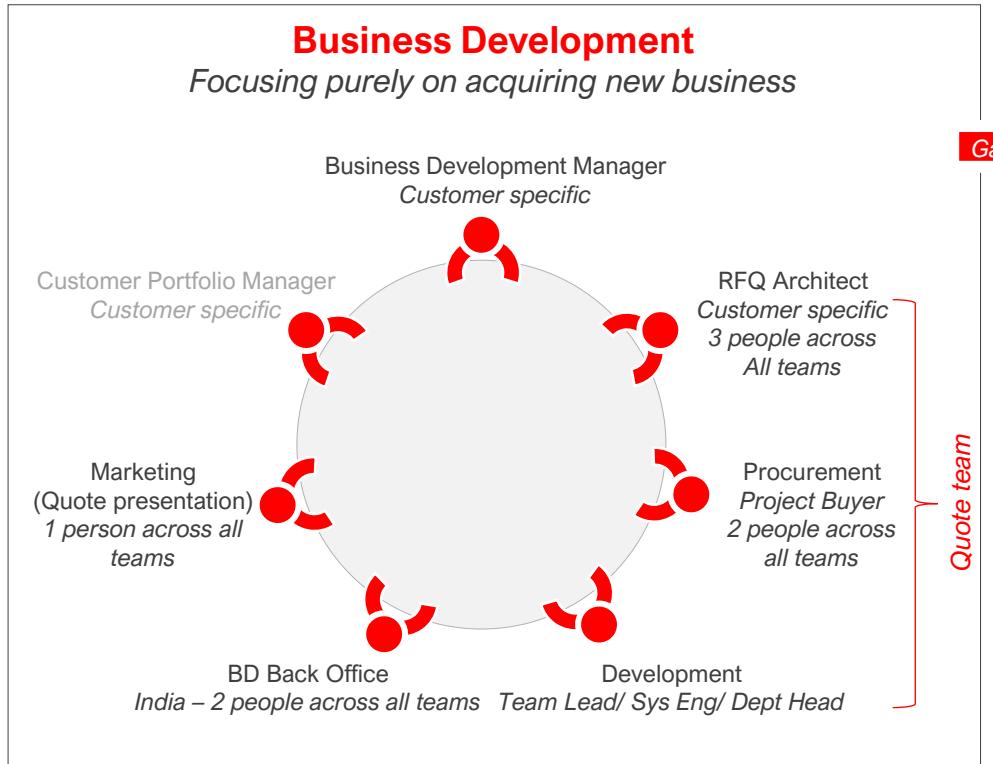
- 15 automatic OVT assembling lines
- 3 semiautomatic OVT assembling lines





OUR TEAM

All under one roof: Our fully dedicated team of professionals will ensure a safe launch of your project and lead you every step of the way





A world map with a background pattern of a printed circuit board (PCB). Red dots are placed on the map to indicate specific locations: one in North America (USA), one in South America (Argentina), one in Europe (Germany), one in Asia (China), and one in Oceania (Australia).

THANK YOU!