



SIMPLIFYING COMPLEXITY. DELIVERING VALUE.

Jabil Vienna Overview FY21

Martin Bropst

JABIL

A one stop shop solution

JABIL



Design

- System architecture
- Electrical engineering
- Mechanical engineering
- Software engineering



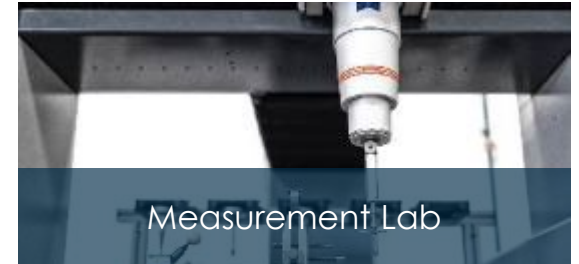
Rapid Prototyping

- In-house prototyping
- Typical lead time < 5 days



Verification Lab

- Reliability testing
- Environmental testing (incl. equipment development)
- Demonstrator build-up support



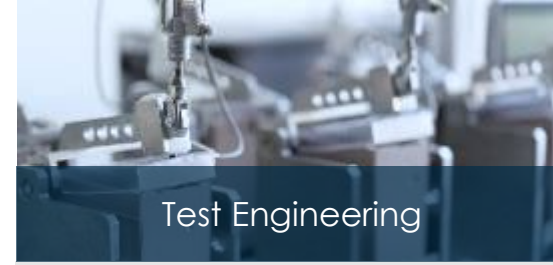
Measurement Lab

- Material & failure analysis
- Component validation



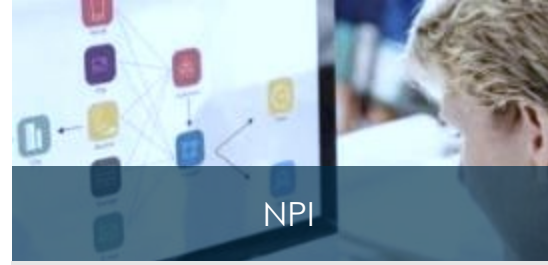
Supply Chain

- Cost engineering
- Technology scouting
- Supplier knowledge



Test Engineering

- Application specific test solutions
- Functional testing



NPI

- Design for manufacturing
- Engineering builds
- Long-term capability



Manufacturing

- Precision mechanical products
- Advanced module & final assembly
- High-complexity design



Advanced Manufacturing Capability Center

The Capability Center consists of following areas:



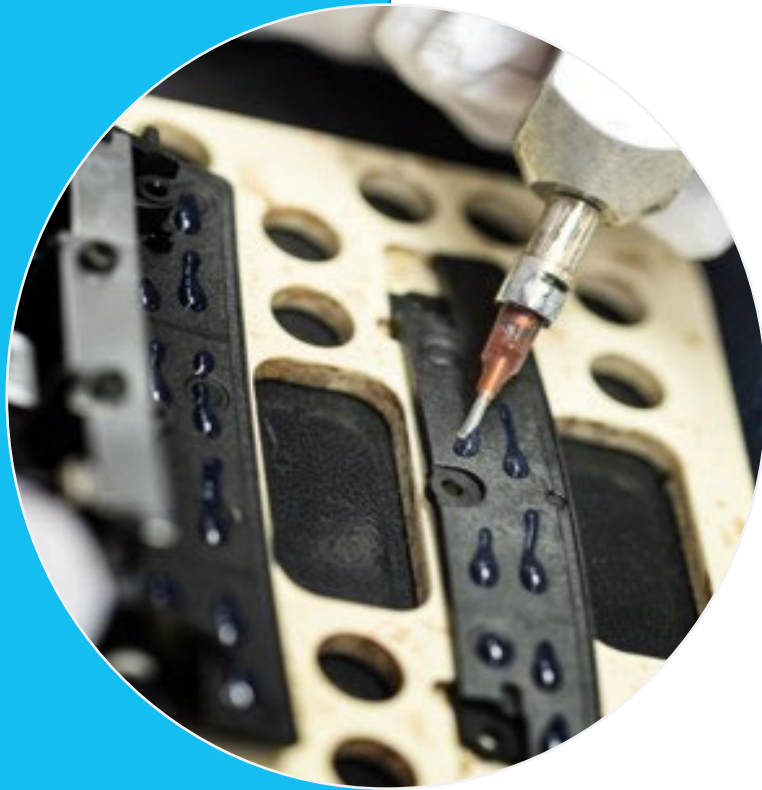
1. Precision measuring (*analyze it*)
2. Adhesives (*fix it or make it move*)
3. Serialization (*make it a process*)
4. Fluidics Lab (*if liquids join the game*)
5. Technologies (*all the tiny things to make it work*)
6. Noise (*how does it sound*)
7. Automation / SMART Testing (*go test it*)



What do we offer?

- **tactile measuring** (ZEISS Contura), laser bending (Trumpf), laser labeling
- material and process failure analysis
- **validation of components & products** (pre-serial & AQL)
- design analysis
- supplier qualification
- CT Scanner
- high accuracy (1 μm)

What do we offer?



- **advanced adhesive technology** applied via robot systems or manual dispenser
- **short serial lead times** and robust products with 1K or 2K adhesives with UV activation (dedicated wavelengths for different applications)
- **food safe applications** with FDA conformant silicone glues
- **short optimization cycles** with noninvasive lab analysis of glued parts via CT-scan
- greasing applications for **product lifetime enhancement** and noise management

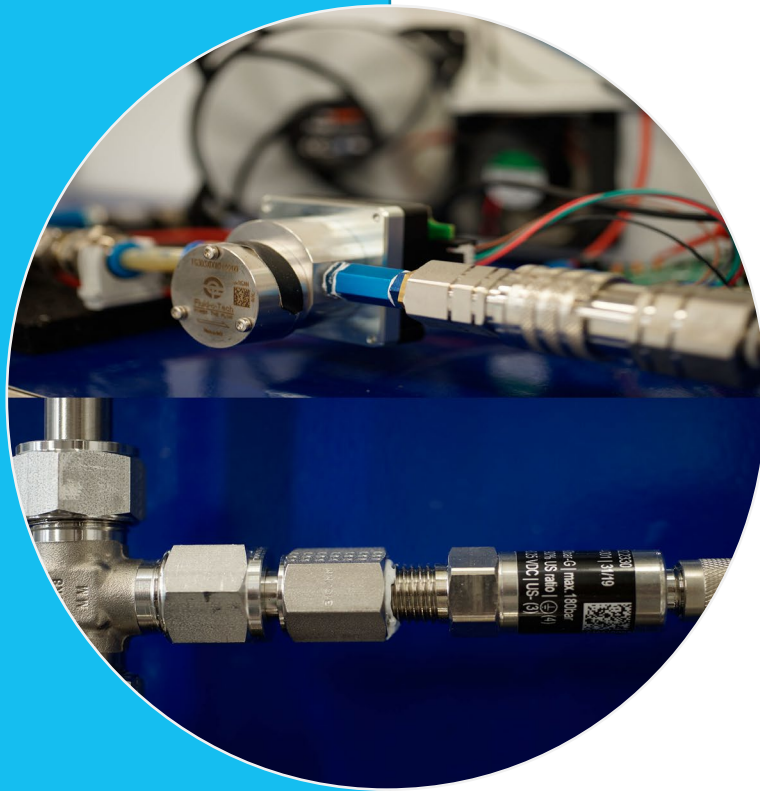


What do we offer?

- **small scale production** with desired grade of automation and traceability
- **expert know-how** on manual processes such as **sensitive parts assembly**, soldering and other various means of industrialization (e.g. **jig-development**)
- **final & intermediate measurements** on dedicated equipment (e.g. acoustic measuring)

What do we offer?

- **characterization of pumps** via measurements to understand the suitability for project/purpose of use
- **develop testing methods** to check component conformity (for NPI & serial-production)
- highly resolving pressure sensor by TRAFAG
- Coriolis flowmeter by HEINRICHS/KOBOLD
- controllable needle valves (for reproducible measurement conditions)
- viscosimeter/mixing devices & oscilloscope
- LabView controlled electronics



What do we offer?

- **serial-labeling** in different sizes with zebra printer (database/MES connected)
- **screwing torque** value measuring (pre-serial or AQL) with Reck Enineering
- various hand-lever presses for NPI/small batch processes
- **lasermarking** with vectormark by TRUMPF



What do we offer?



- **development of** measurable, quantitative **customer specification** and proposals for improvement of noise emission level and quality
- **rising FPY** with improvements of components
- noise = vibration → improving noise behavior of products = **longer lifecycle** & more durable
- triple wall acoustic booth studiobricks® pro (insulating 52 dB in accordance with ISO 717-1) and DESONE Modulare Akustik M:Box
- acoustic camera (paddle and ring array) for noise emission localization

What do we offer?

- **lifecycle tests** - customized & accelerated
- housed EPSON multi axis robot increases cost saving and quick set-up of a new LCT (e.g. mechanical connector testing)



deep investigations



3D camera scanner

Nikon CT (noninvasive “see-through” investigation, 3D comparison against CAD)

Tactile measurements (e.g. ZEISS Contura) 1µm

Roundness/surface meter

Electron-microscope /sputter coating

Mass spectroscope (organic material analysis)

Optical and camera stacking microscope(s)

Tensile testing machines

materials & lifetime



Validation & verification of designs

Accelerated Lifetime simulations
(humidity/temperature/exposure/cyclecount)

Cut sections (e.g. laser-welding investigation)

Vibration/shake tests (max G-force/noise
emission/resonance-frequency)

Different types of 1k/2k and UV activated glues
and silicones

Tight bond to grease, glue & materials
manufacturer



**We are looking forward
to hearing from you!**

Managing Director

Martin Bropst

+43 664 8311 890

Martin_Bropst@Jabil.com

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