ScanCorder

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COMPOLYTICS

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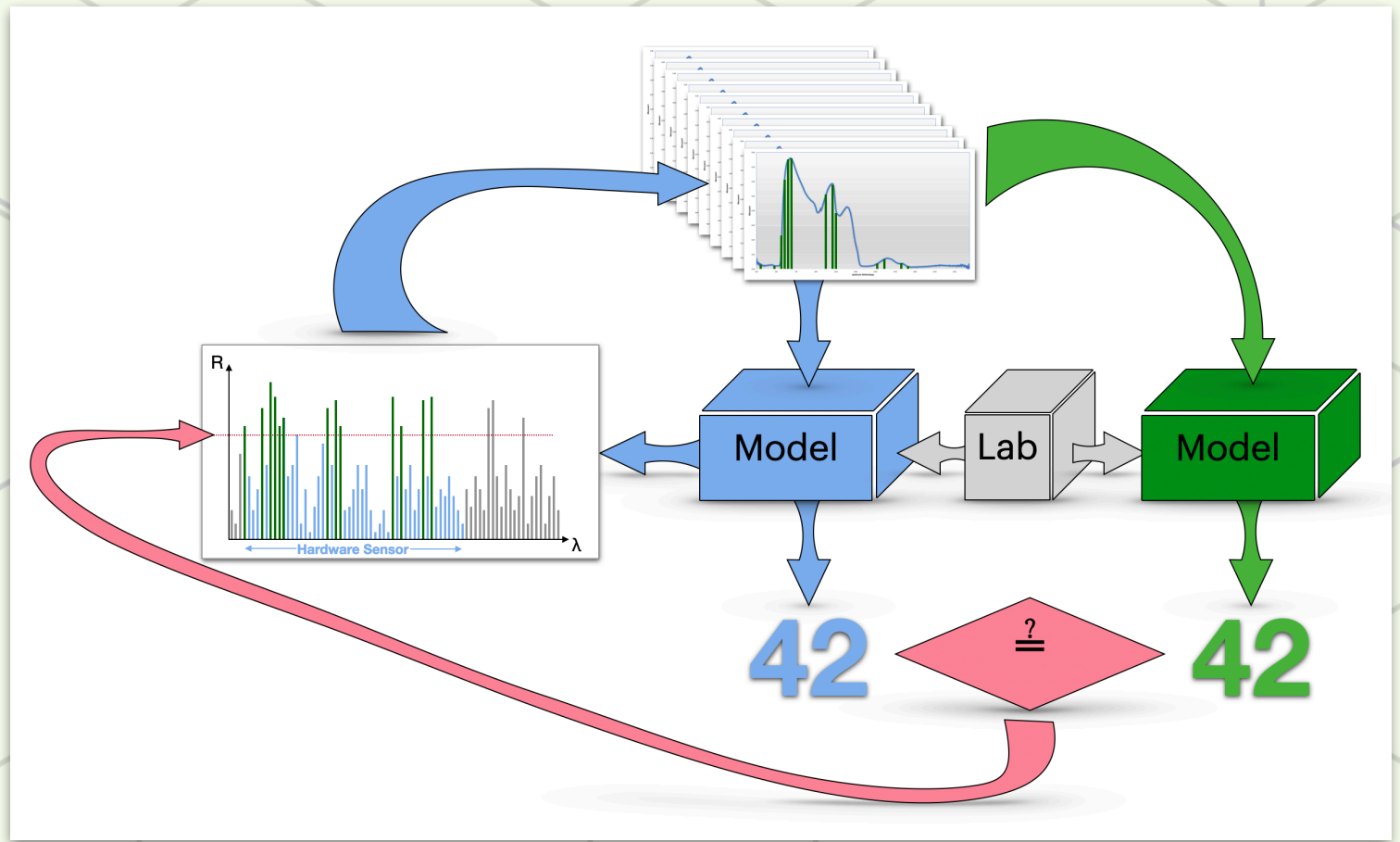
Some applications demand non-standard hardware. With our custom-tailored process, we identify the most relevant spectral bands for your case and build a sensor around them — validated in your environment.

Custom-Tailored ScanCorder

Technical approach

- Featuring Compolytics' unique technology: **Inverted Spectroscopy**.
- ML-based modelling.
- From concept to application-ready sensor: Engineered to your needs.

Step	Your Benefit
Relevance profile calculation	Identifies only the bands that matter
Simulation of expected results	Transparent feasibility check
Prototype decision & design	Optimised cost and form factor
Final tailored sensor	Delivered with validated ML model



The process

1. **Initial measurement campaign**
   Your representative samples scanned at high resolution (350–2,500 nm).
2. **Machine learning model & relevance profile**
   Machine learning links your ground-truth data with the spectrum:
   - Precision estimate under ideal conditions.
   - Relevance profile of most informative bands.
3. **Band reduction & simulation**
   Performance simulated with reduced bands — optimised balance of cost and accuracy.
4. **Prototype sensor**
   First hardware built and validated in your real-world environment.
5. **Iterative refinement**
   Loops of simulation and prototype until results are fully convincing.
6. **Final solution**
   Custom-tailored ScanCorder hardware delivered with the trained ML model.

Benefits

- Application-driven: Built on your samples.
- Efficient: Fewer bands, less data, lower cost → Green Sensing.
- Transparent: Clear simulations before hardware.
- Scalable: From prototype to production in desired lot size.
- Predictable: Fixed-price project packages.

Specs & services

- Measurement basis: High-resolution spectrometer from Compolytics Spectral Laboratory (350–2,500 nm).
- Band selection: Machine learning relevance profiles.
- Prototype stage: Included in every project.
- Output: Tailored ScanCorder hardware + validated ML model.
- Integration: Delivered with CICADA software support without extra cost.
- Delivery: From single prototype to production lots.

From concept to hardware: Every colour tells a different story

Get more information

- Schedule an online demo session via our website or send your enquiries to: sales@compolytics.com.

Mini glossary

- **Ground-truth data:** Reliable reference values from lab analysis or expert labels.
- **Relevance profile:** Ranking of spectral bands by how informative they are.
- **Band reduction:** Using only the most useful wavelengths instead of the full spectrum.
- **Prototype sensor:** First hardware version to test in real conditions.
- **Soft-sensor:** A physical sensor combined with ML for indirect measurements.