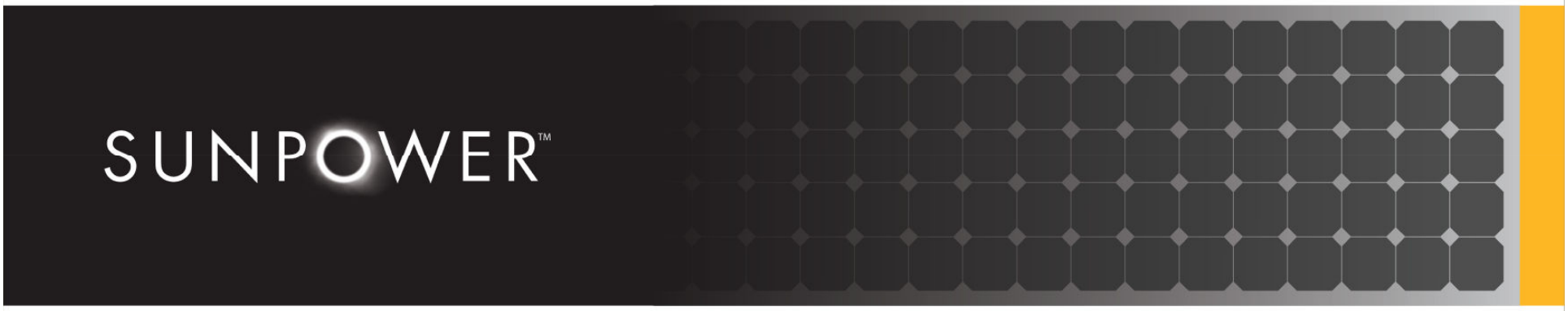
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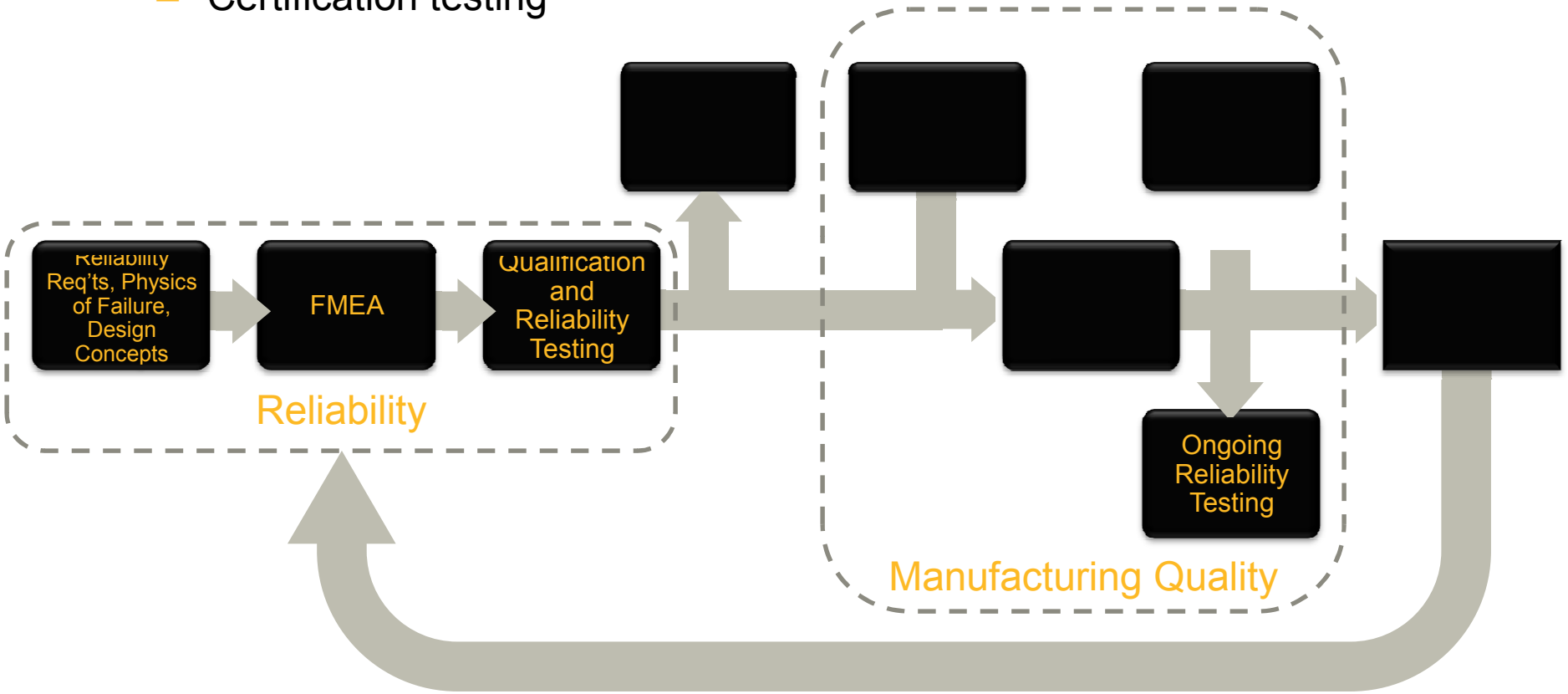
This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that do not represent historical facts and may be based on underlying assumptions. SunPower uses words and phrases such as "expects," “believes,” “plans,” “anticipates,” "continue," "growing," "will," to identify forward-looking statements in this presentation, including forward-looking statements regarding: (a) plans and expectations regarding the company’s cost reduction roadmap, (b) cell manufacturing ramp plan, (c) financial forecasts, (d) future government award funding, (e) future solar and traditional electricity rates, and (f) trends and growth in the solar industry. Such forward-looking statements are based on information available to the company as of the date of this release and involve a number of risks and uncertainties, some beyond the company's control, that could cause actual results to differ materially from those anticipated by these forward-looking statements, including risks and uncertainties such as: (i) the company's ability to obtain and maintain an adequate supply of raw materials and components, as well as the price it pays for such; (ii) general business and economic conditions, including seasonality of the industry; (iii) growth trends in the solar power industry; (iv) the continuation of governmental and related economic incentives promoting the use of solar power; (v) the improved availability of third-party financing arrangements for the company's customers; (vi) construction difficulties or potential delays, including permitting and transmission access and upgrades; (vii) the company's ability to ramp new production lines and realize expected manufacturing efficiencies; (viii) manufacturing difficulties that could arise; (ix) the success of the company's ongoing research and development efforts to compete with other companies and competing technologies; and (x) other risks described in the company's Annual Report on Form 10-K for the year ended December 28, 2008, Quarterly Report on Form 10Q for the quarter ended Sept. 27, 2009, and other filings with the Securities and Exchange Commission. These forward-looking statements should not be relied upon as representing the company's views as of any subsequent date, and the company is under no obligation to, and expressly disclaims any responsibility to, update or alter its forward-looking statements, whether as a result of new information, future events or otherwise.

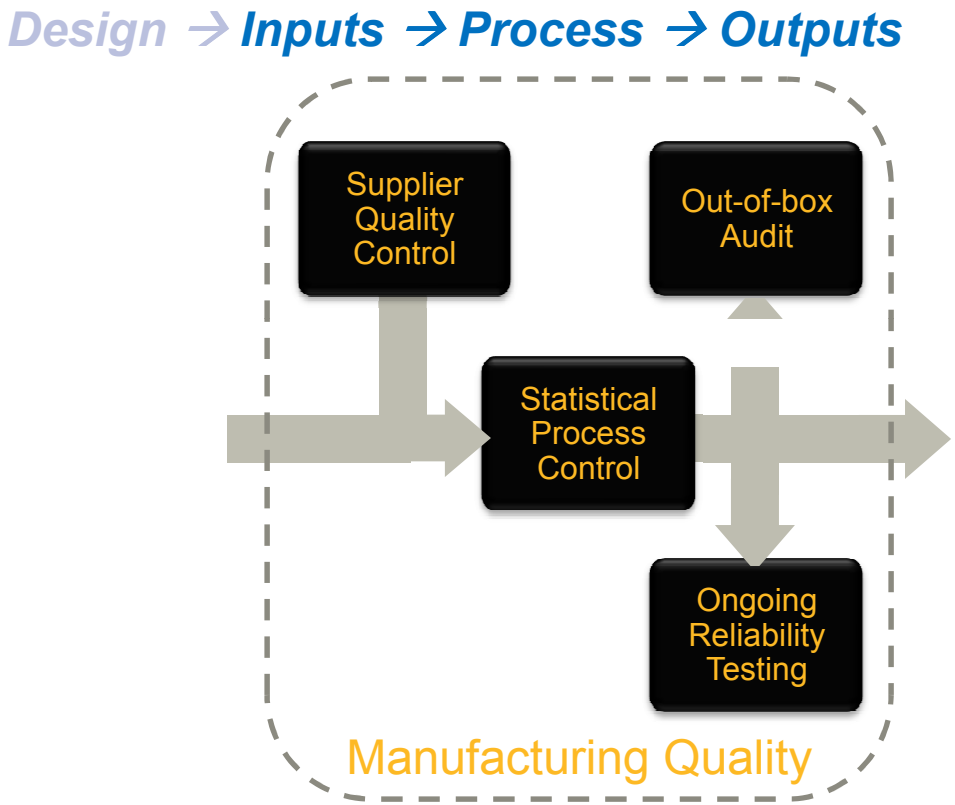
Big Picture

- Note difference between:
  - Qualification and Reliability testing
  - Ongoing Reliability Testing
  - Certification testing



Overview

- Focus today is on Manufacturing Quality
- Simple model:



Inputs: Supplier Quality Management

- Stage 1: Early engagement
  - Understand internal requirements, determine sourcing strategy and resources
- Stage 2: Planning and Preparation
  - Set expectations with supplier, analyze the current situation, develop a roadmap
- Stage 3: Qualification of supplier
  - Align expectations, data collection and analysis, conformance
    - Change Notification process
    - PSC audit
    - STARS score
- Stage 4: Supplier managed inventory
  - Self-assessment with validation, improvement plan, periodic review

PSC Audit:

- Prevention – Employee training, Statistical Process Control, FMEA usage, 8D usage, CAPA (Corrective and Preventive Actions) usage, Reliability program, Supplier Quality Program, etc.
- Standardize/Simplified/Scalable – high quality business processes.
- Customer Satisfaction – customer surveys, responsiveness to customer issues.

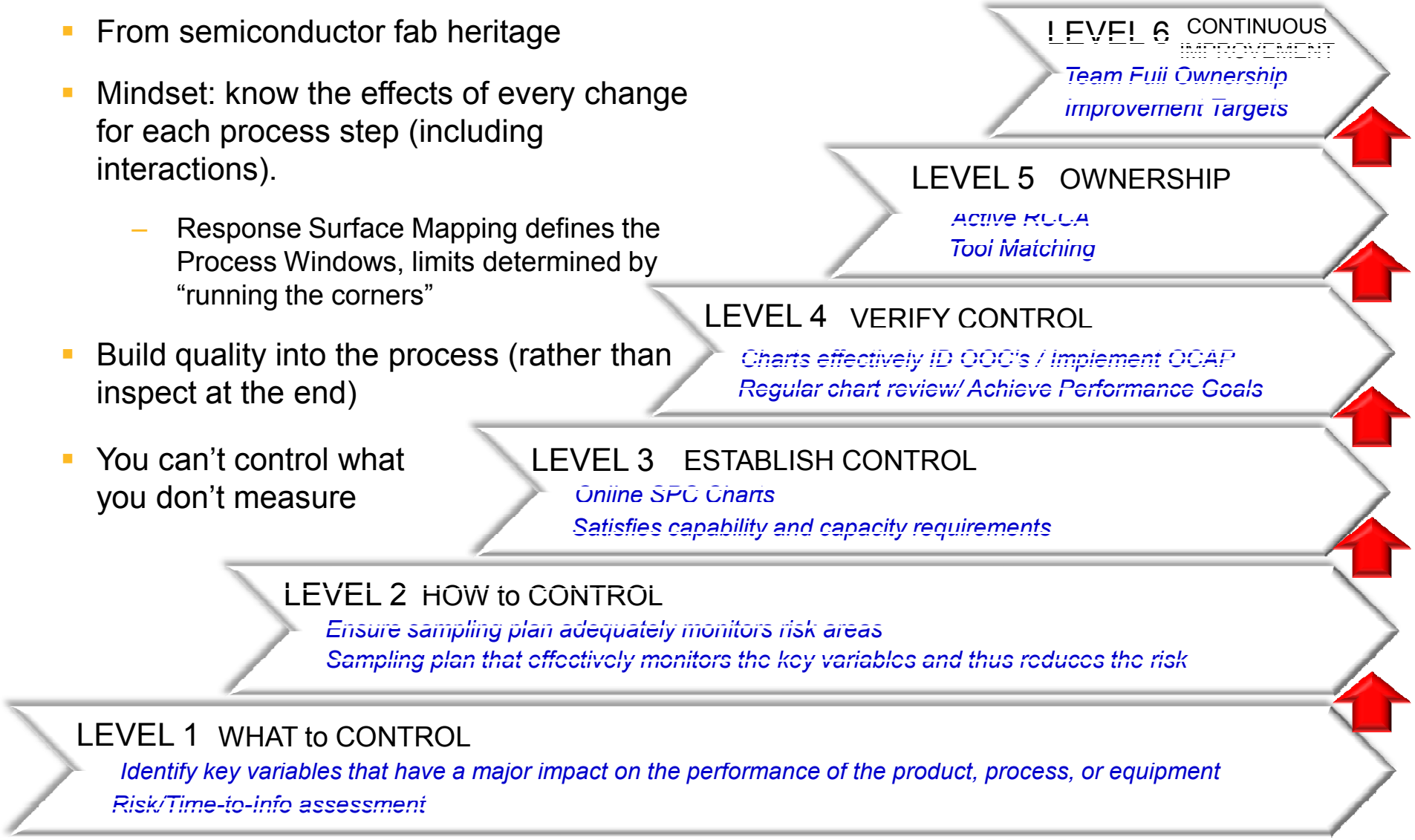
STARS – Supplier Total Achievement Rating System

- Quality – customer issues, reliability, compliance to SunPower change requests, PSC Audit performance, problem recurrence rate
- Cost and cost reduction plan
- Availability – on-time delivery, lead time, etc.
- Technology

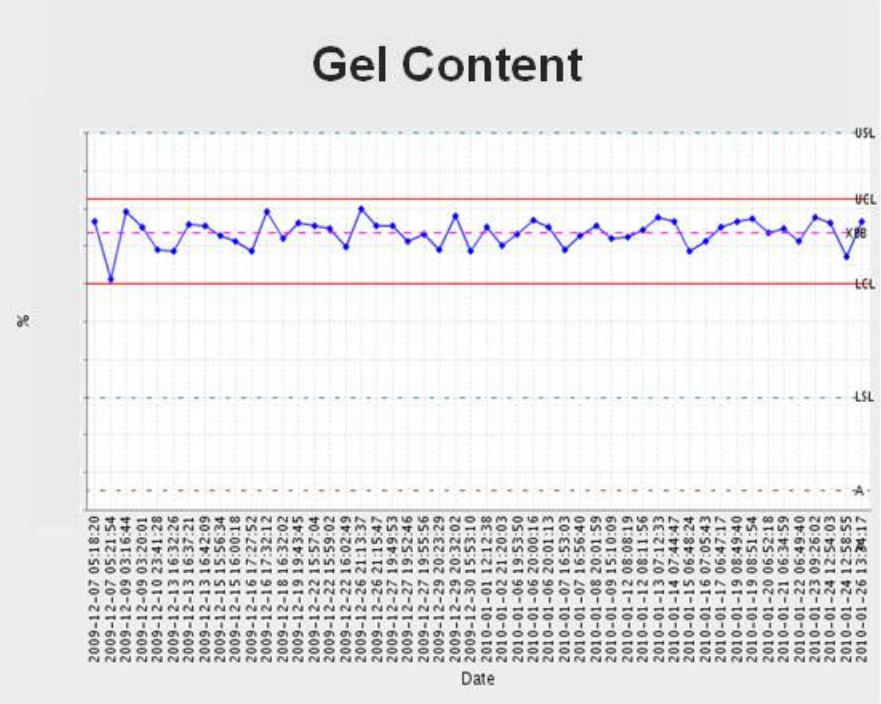
Must score more than 80% to be an approved supplier

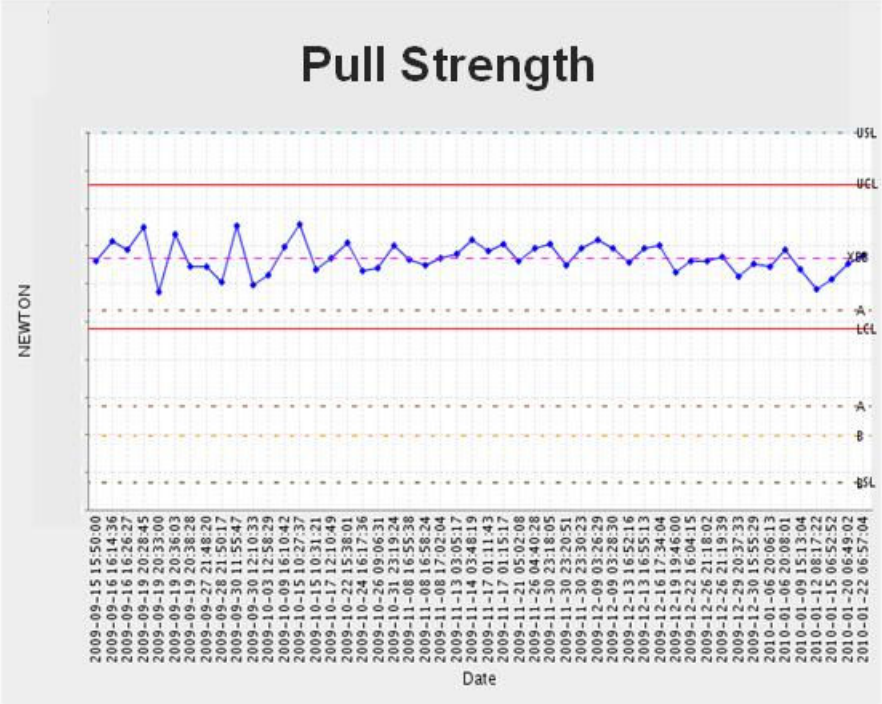
Process: Statistical process control (SPC)

- From semiconductor fab heritage
- Mindset: know the effects of every change for each process step (including interactions).
  - Response Surface Mapping defines the Process Windows, limits determined by "running the corners"
- Build quality into the process (rather than inspect at the end)
- You can't control what you don't measure



SPC Example: Lamination Process



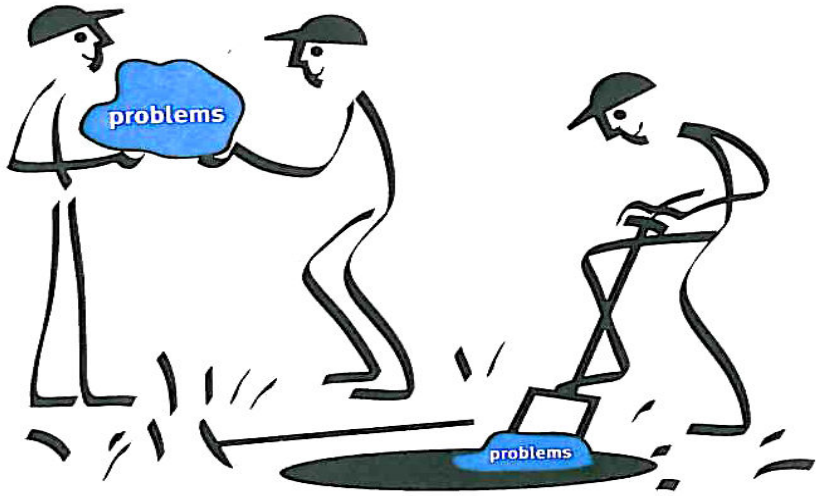


Each of these is considered a "chart" and is managed by the process engineers. There are over 100 charts encompassing the end-to-end manufacturing process.

Manufacturing Culture and SPC

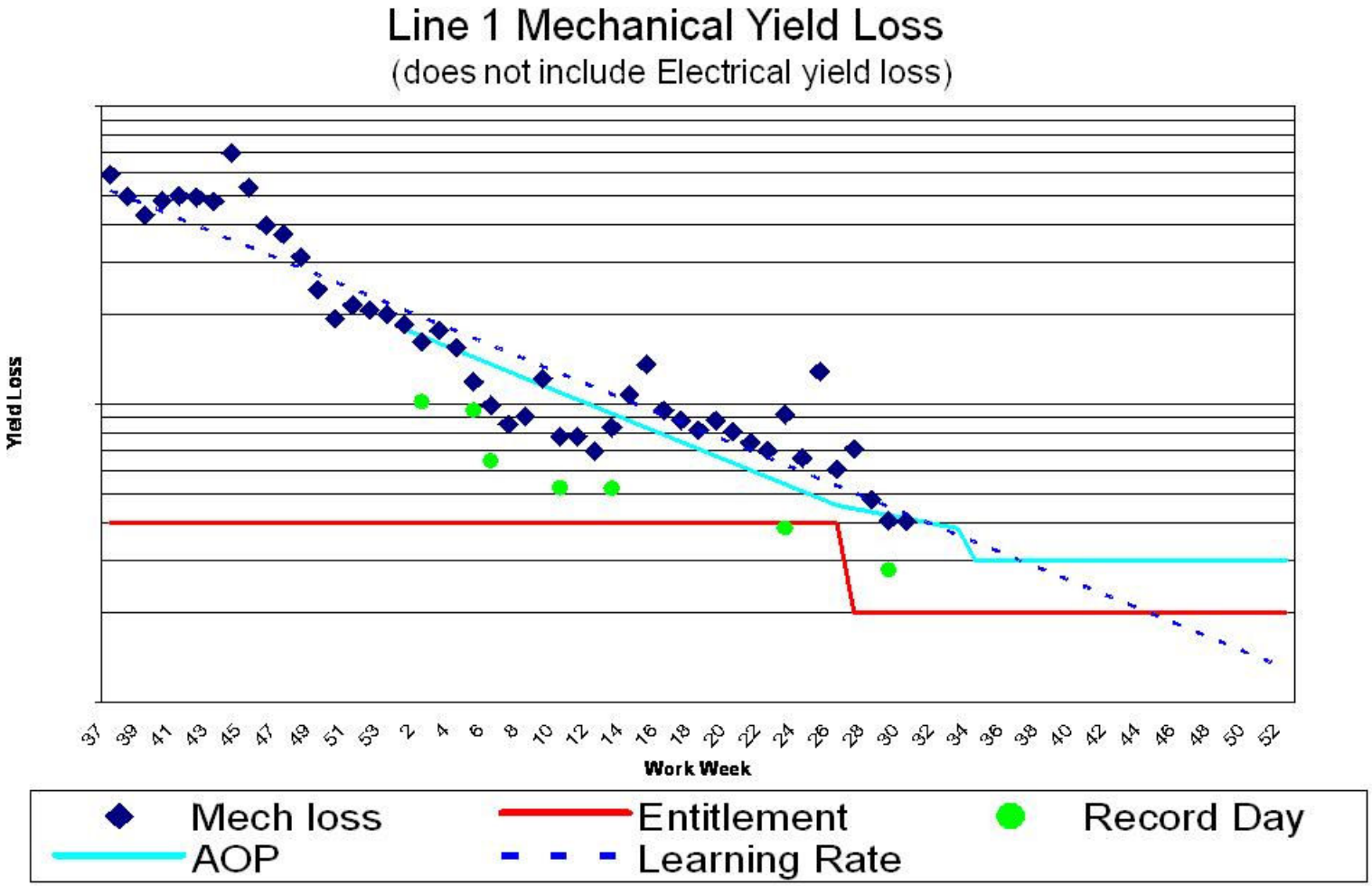
Statistical Process Control can only be effective with an empowered organization structure

- People who do the work know best
- Pride of workmanship and quality at the source
- Continuous cycles of Learning and Improvement
- “Bright Ideas” come from everyone – all are welcome



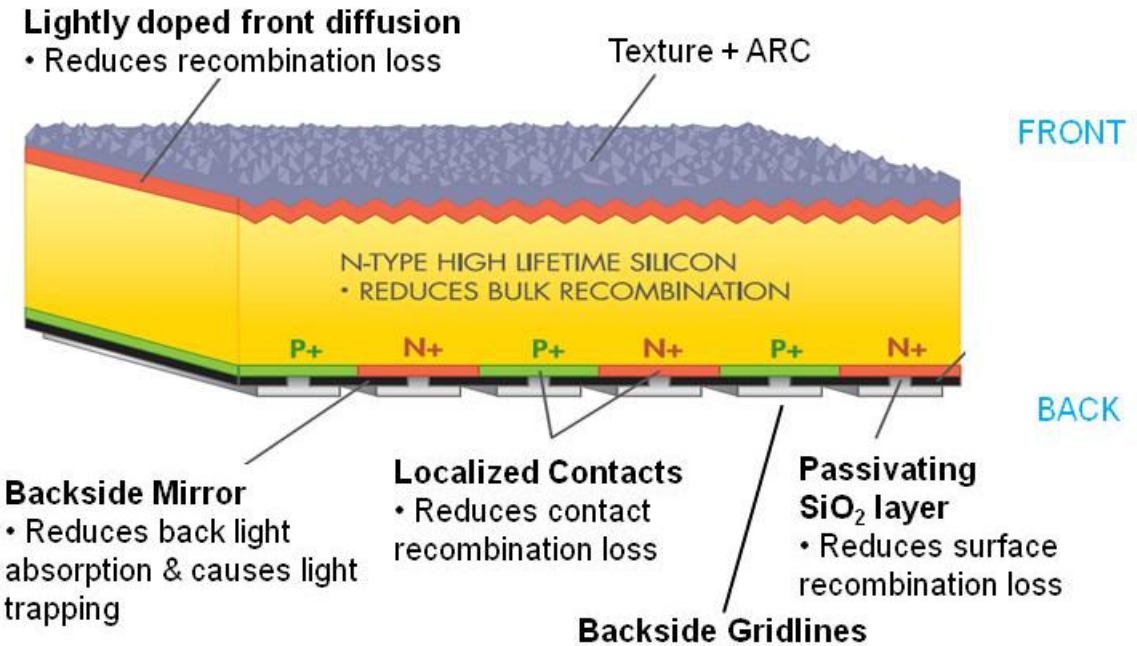
Problems are Treasures

SPC Example: getting a process under control

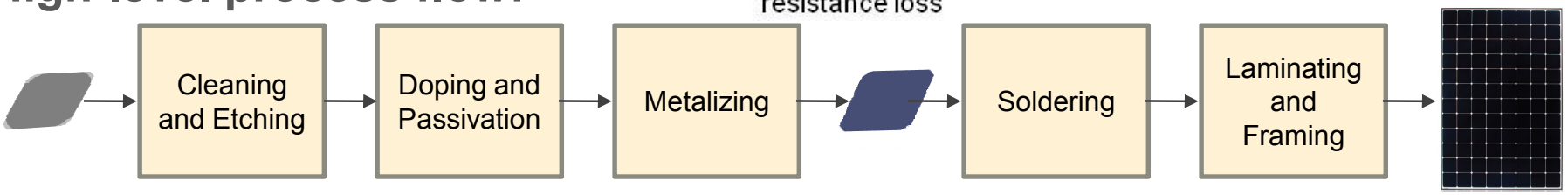


SunPower Manufacturing Process

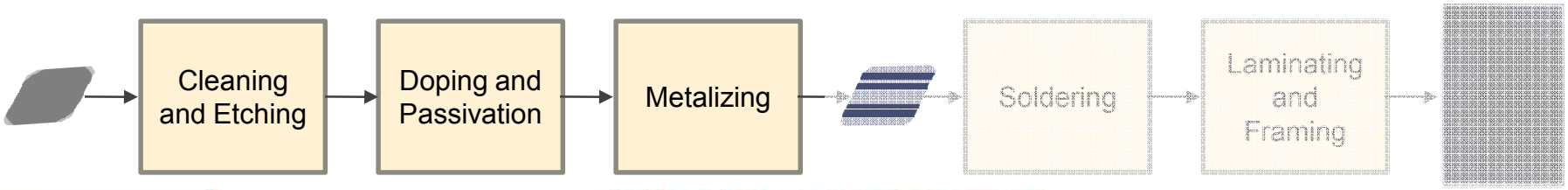
>22% Efficiency Solar Cell



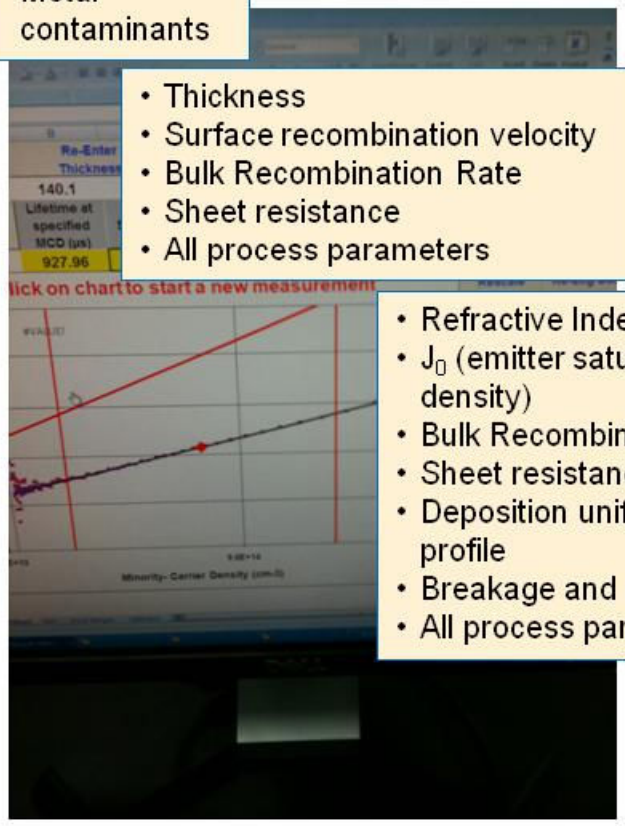
High-level process flow:



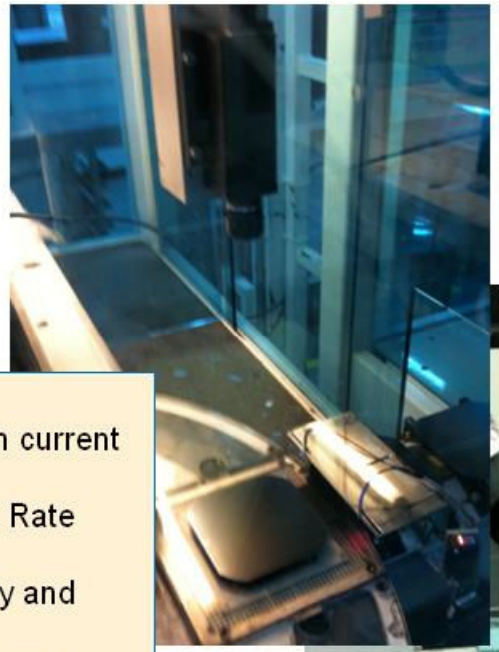
SPC Examples: major tests at each step



- Thickness
- Metal contaminants



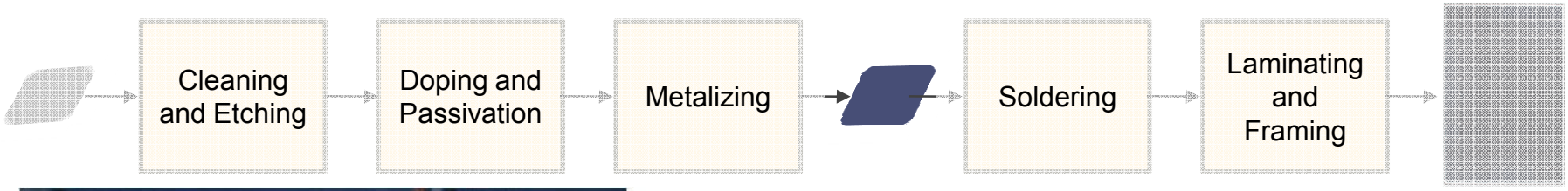
- Thickness
- Surface recombination velocity
- Bulk Recombination Rate
- Sheet resistance
- All process parameters

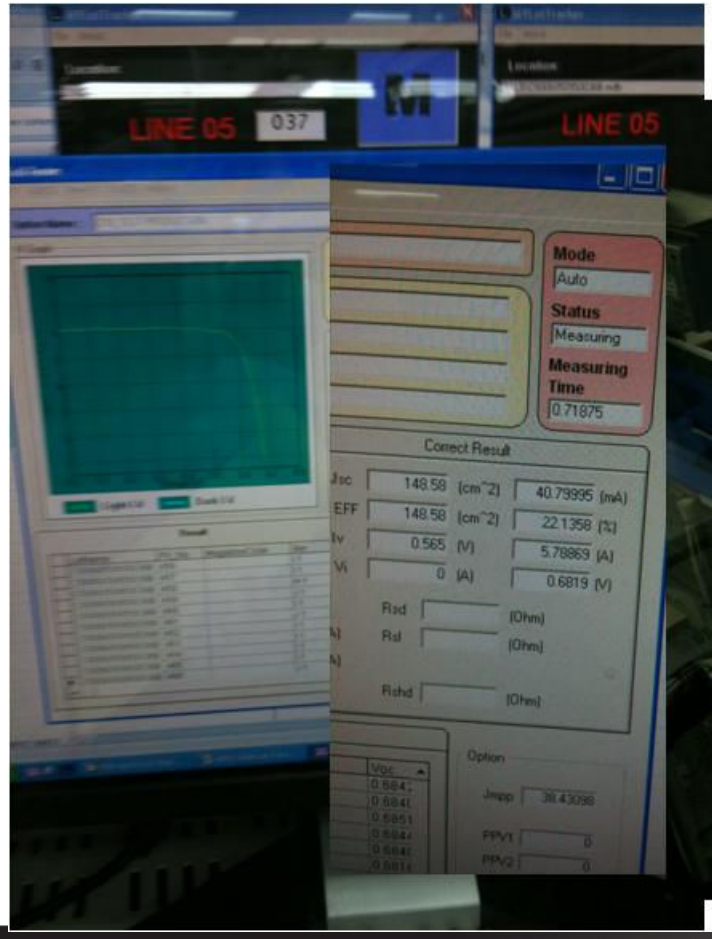


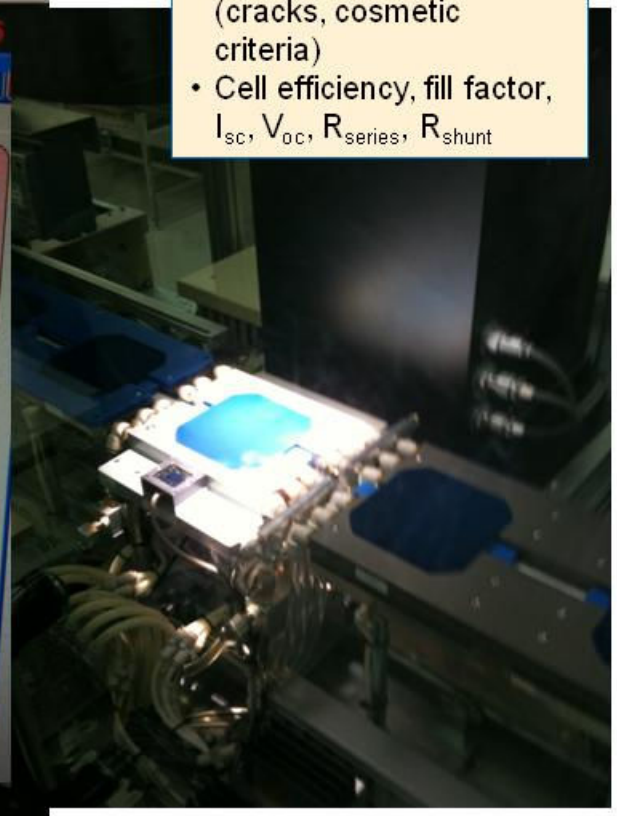
- Refractive Index
- J_0 (emitter saturation current density)
- Bulk Recombination Rate
- Sheet resistance
- Deposition uniformity and profile
- Breakage and alignment
- All process parameters

- Metal thickness
- All process parameters

SPC Examples: major tests at each step

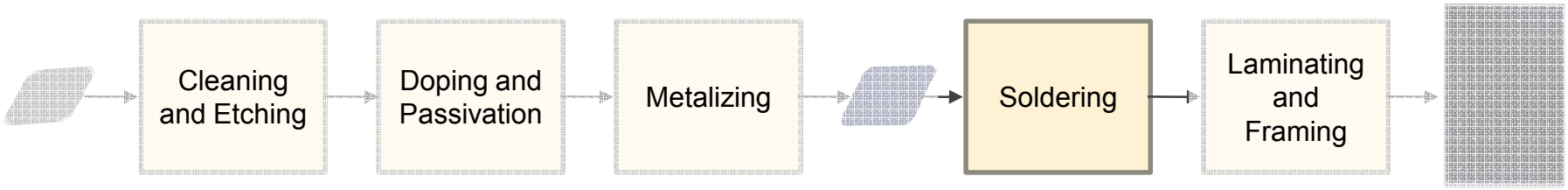




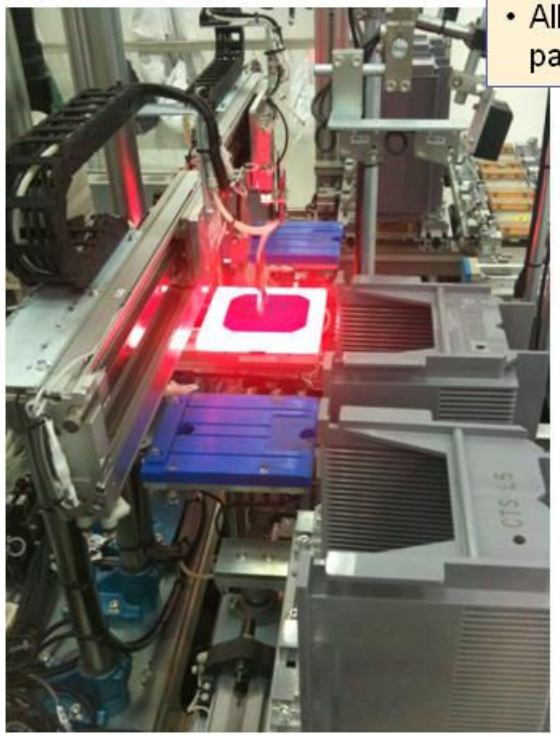


- Visual inspection (cracks, cosmetic criteria)
- Cell efficiency, fill factor, I_{sc}, V_{oc}, R_{series}, R_{shunt}

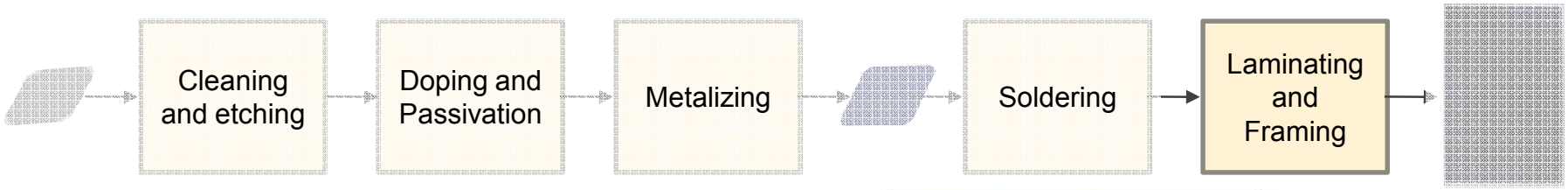
SPC Examples: major tests at each step



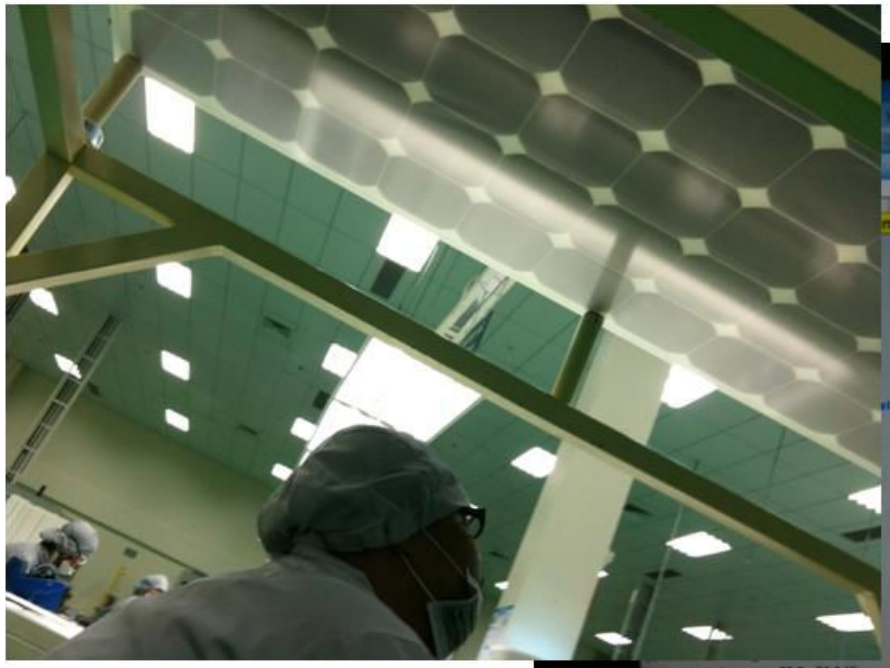
- Chips and shape
- Substring voltage
- All process parameters

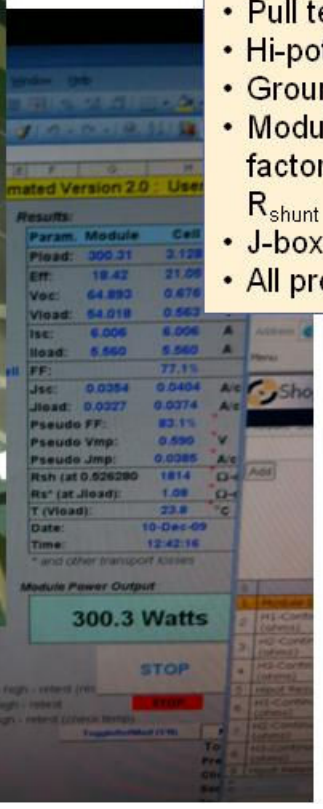


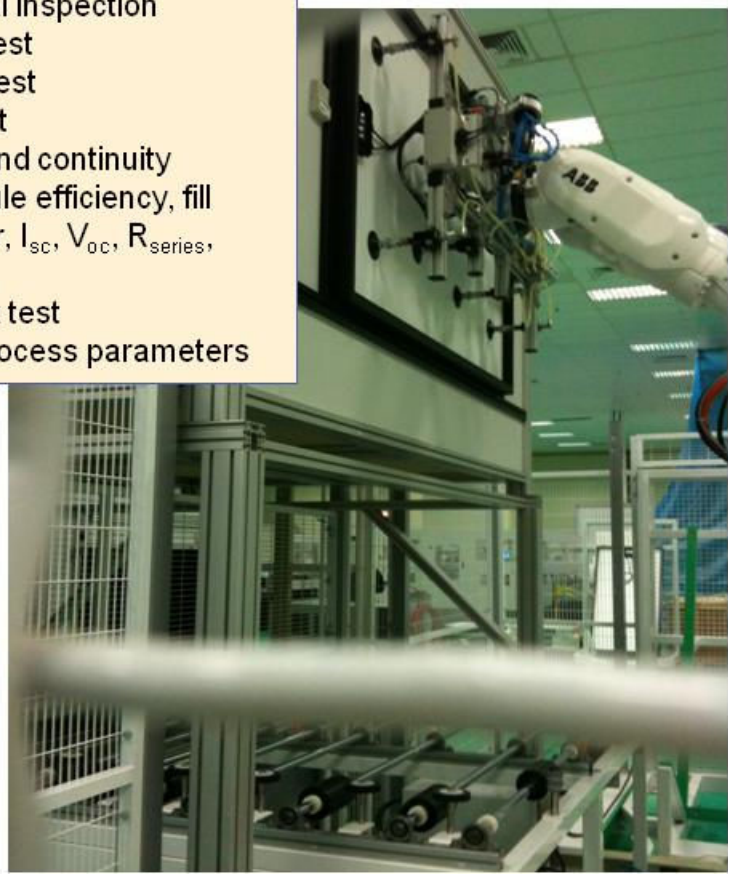
SPC Examples: major tests at each step



- Visual inspection
- Gel test
- Pull test
- Hi-pot
- Ground continuity
- Module efficiency, fill factor, I_{sc}, V_{oc}, R_{series}, R_{shunt}
- J-box test
- All process parameters







Outputs: Out-of-Box Audit

- Random sampling of boxes ready for shipment
- Check for:
  - Marking and documentation
  - Packaging
  - Cleanliness
  - Visual defects
  - Robustness
  - Electrical data (re-test)

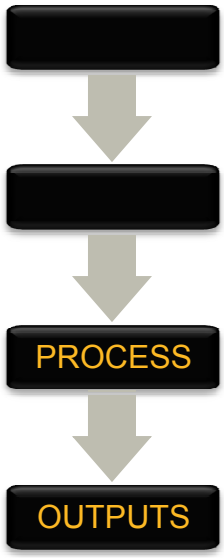
Outputs: Ongoing Reliability Testing

- Cell Tests:
  - Autoclave test
  - UV
- 3-cell Laminate Tests and Module test:
  - 200 Thermal Cycles
  - 40 Humidity Freeze Cycles
  - 1000 Damp Heat Hours
  - Installation and outdoor exposure
  - Periodic longer durations and test-to-failure
- Cell Characterization:
  - Visual inspection
  - Performance test
  - Suns-Voc
  - Photoluminescence
- Laminate & Module Characterization:
  - Visual inspection
  - Performance test
  - High-Potential test
  - Electroluminescence

ORT is strictly a “sniff-test” to ensure no out-of-control manufacturing processes or inputs have impacted reliability. Qualification and Reliability Testing occurs at the design phase and is much more severe (and not pass/fail).

Ongoing Reliability Testing

Conclusions



- Reliability – responsible for a reliable design
- SQC – supplier quality control – responsible for consistent manufacturing inputs
- SPC – statistical process control – responsible for ensuring robust and repeatable manufacturing output
- ORT – ongoing reliability testing – is responsible for ensuring no unanticipated changes have occurred

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