Expert survey on technical requirements of PV-powered passenger vehicles

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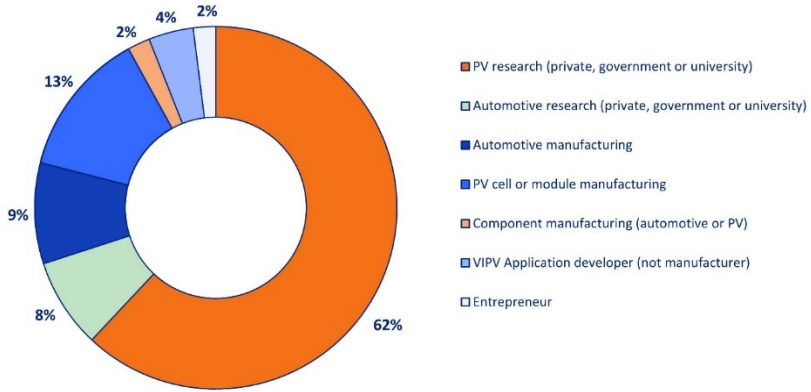
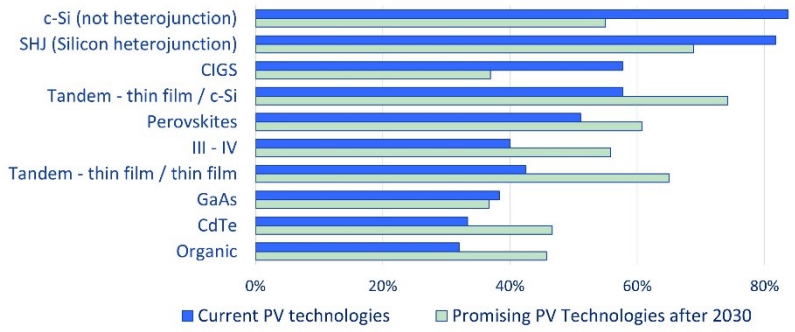
The Technical Requirements for VIPV – a survey of experts

- 110 experts invited
  - 70 responses (64% response rate)
- Continents covered:
  - Asia
  - Europe
  - Australia
  - North America

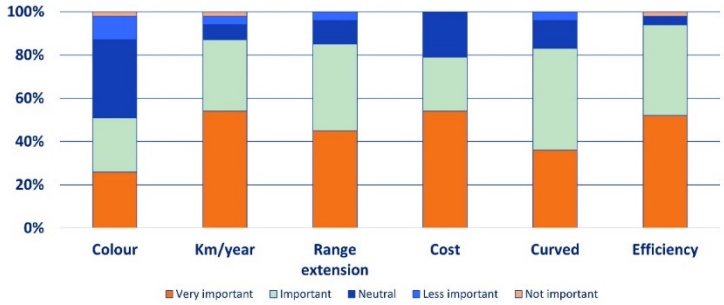


- Topics
  - PV tech.
  - PV system tech.
  - Safety
  - Benefits
  - Bottlenecks

Current and promising PV technology



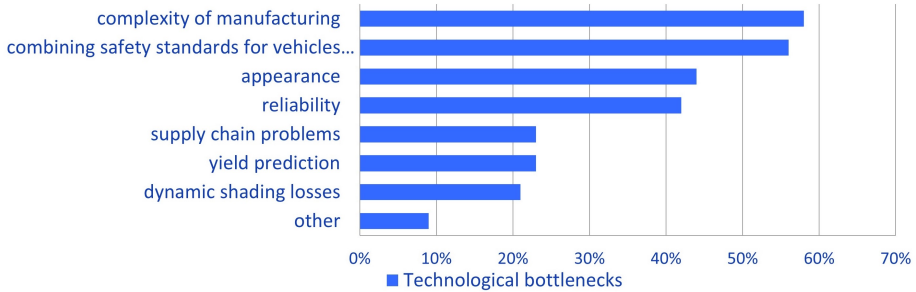
Most important system properties



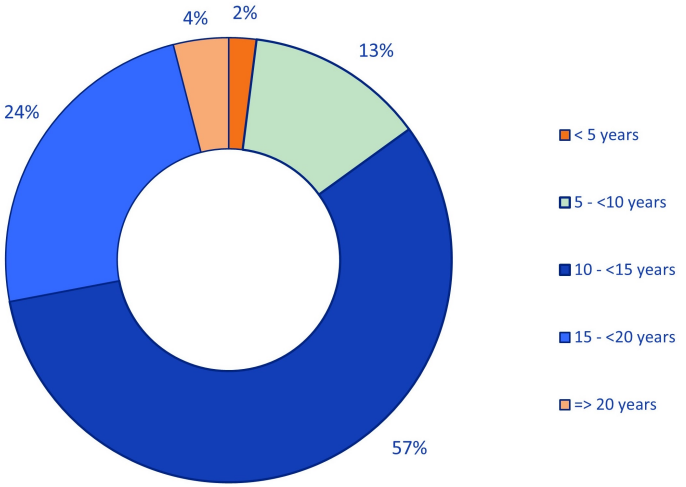
PVPS

System aesthtics, reliability and bottlenecks

What would be an acceptable performance sacrifice for more colour choices?



Technical bottlenecks



Minimum required lifetime ~10-15 years +

PVPS

Key takeaways

- c-Si dominant technology now with tandem expected to grow in the future. And a preference for back contact technology with no visible metal.

- Efficiency, km/year and range extension were the most important system properties, with the most important benefit being the reduced need for charging

- System costs: now 2-5 USD/Wp should drop to < 1 USD/Wp with the biggest technical bottleneck identified as: complexity of manufacture.

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