
Recommendations for cheap, robust and reliable monitoring systems for SWHS

SoPro India
Solar Water Heating for
Industrial Processes in India



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Possibilities to reduce costs for monitoring systems

	Function control	Simple monitoring system	Scientific monitoring system
Number of sensors / parameter measured	Low	Medium	High
Accuracy of measurement	Low / medium	Low / medium	High
Number of data / data storage	Limited / on-site	Limited / on-site	High / on-site and central
Data transfer	-	- / online	Online
Data analysis	Limited internal analysis	Standardized	Individual

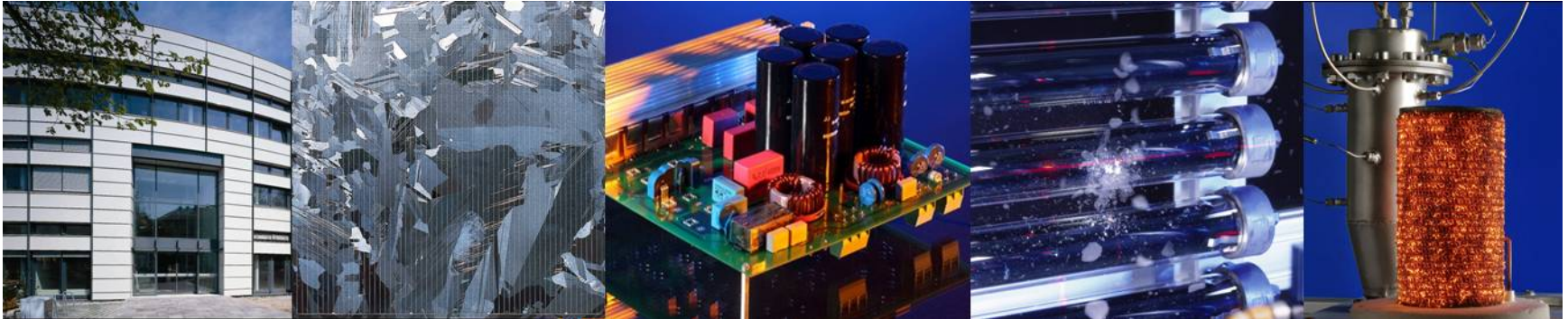
Findings / recommendations

1. The **concept of typical Indian SWHS with their challenges** must be understood to identify the monitoring needs
2. The **goal of measurement** must be clearly defined
3. The **level of accuracy needed** must be defined
4. A **standardized approach** is needed to reduce costs
(limited to typical SWHS concepts, don't work on solutions for all types of SWHS)
5. **Cheap and integrated sensors and components** should be tested
6. Search for and test **new smart technologies** from Internet / ICT sector
7. **Joint effort of manufacturers** is needed to develop a branch solution together with scientists
8. **Pilot project** with a large number of monitoring systems is then needed to verify the developed solution in the field



ICT = Information and communication technology

Thank you very much for your attention!



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