



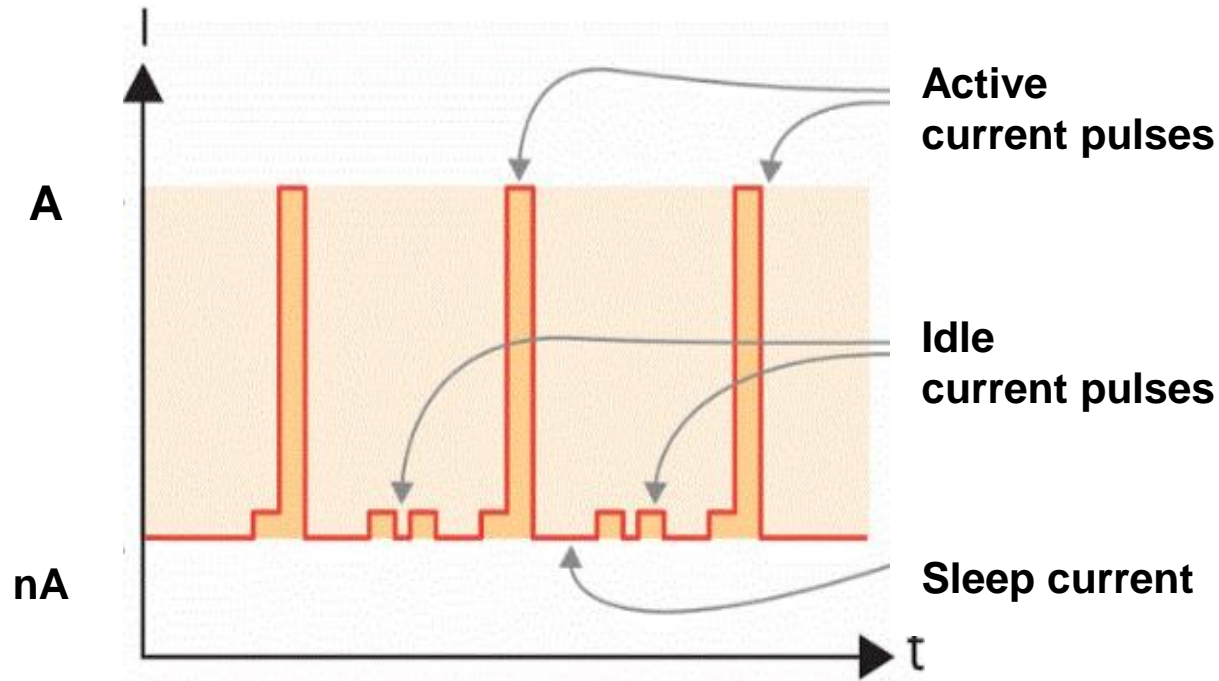
Optimize Energy in Battery-less sensors

New Innovation Dramatically Improves
Energy Measurement Accuracy

Carlo Canziani
EMEA Business Development

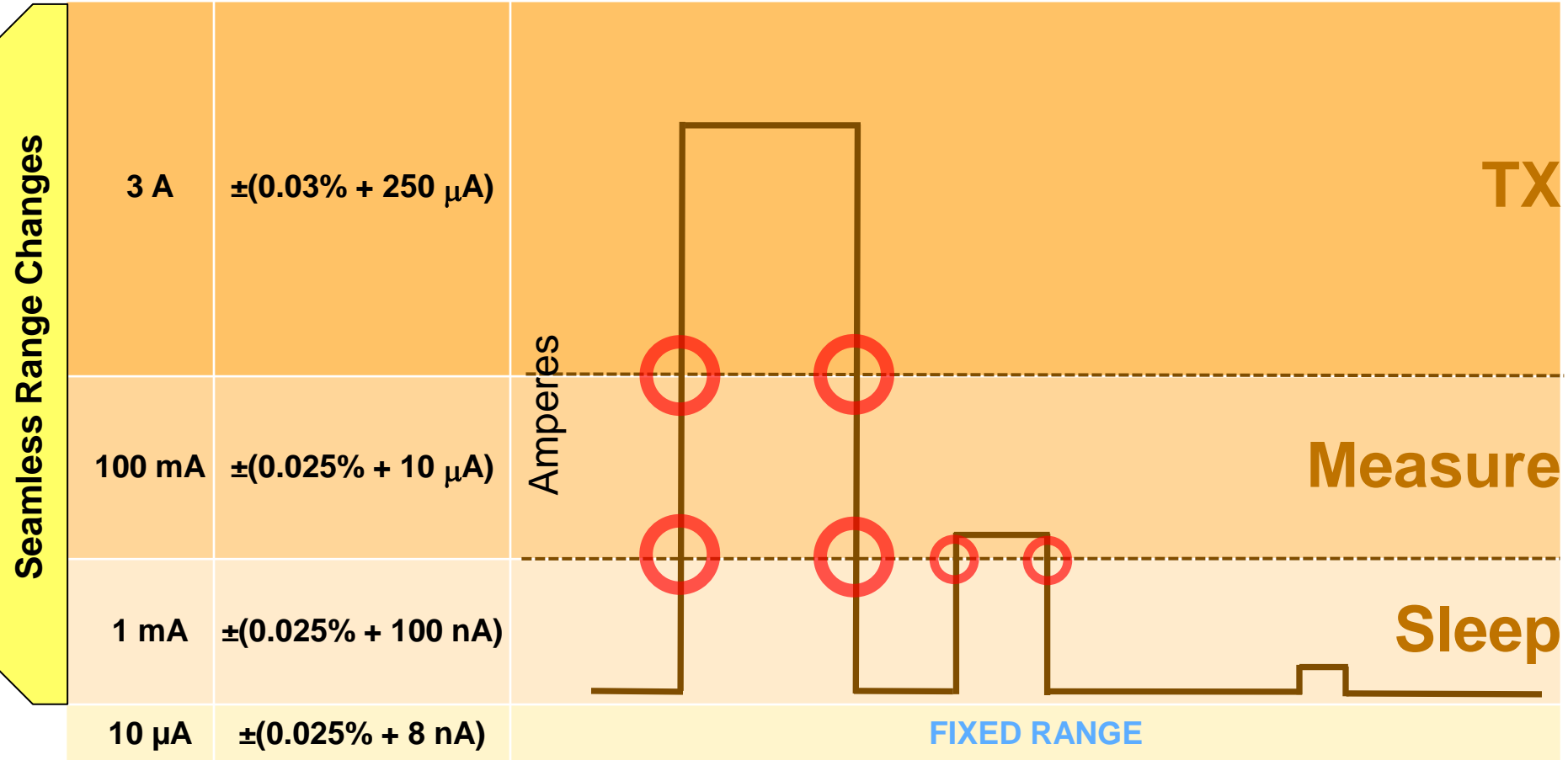


Measurement Challenge: Dynamic current

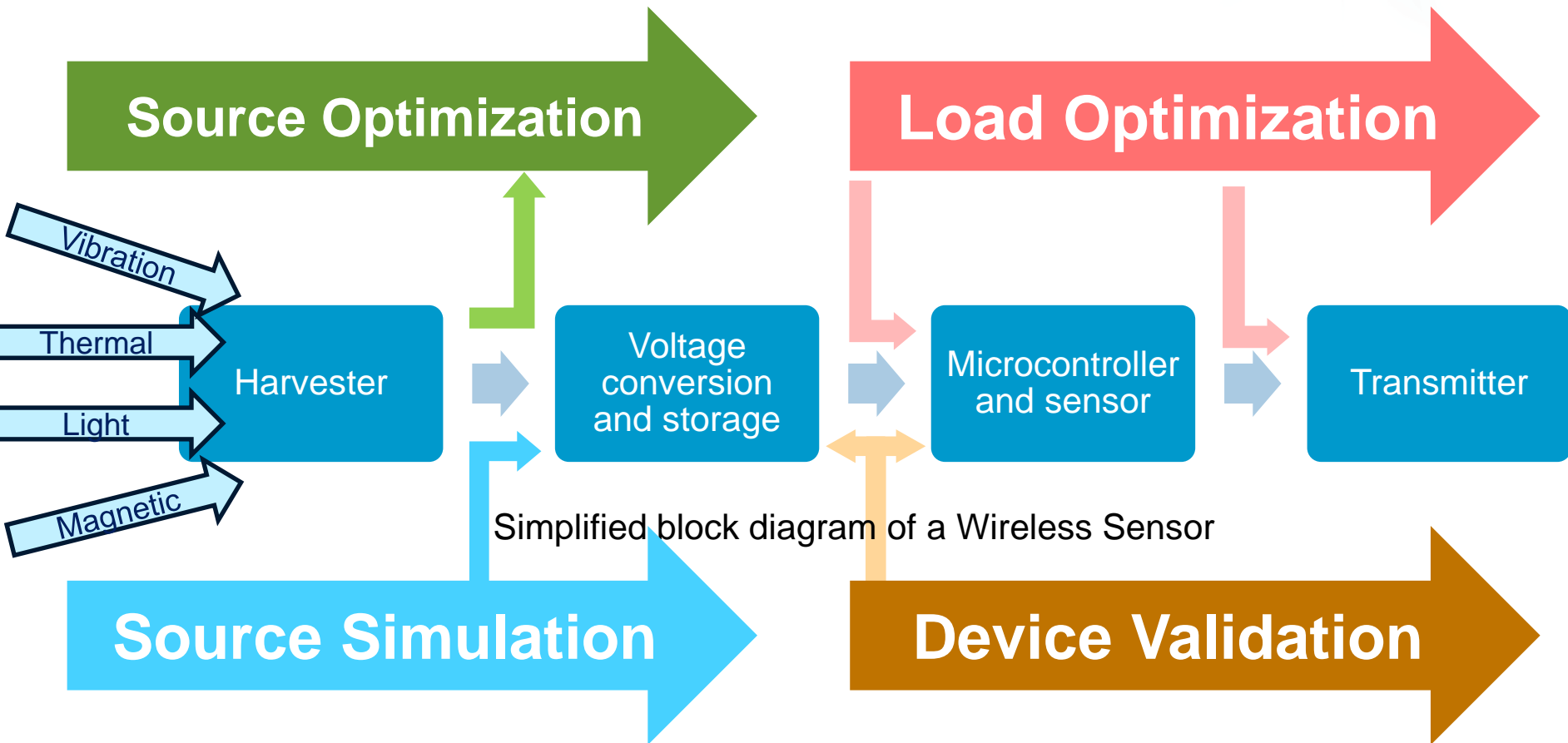


Innovation: Seamless Measurement Ranging

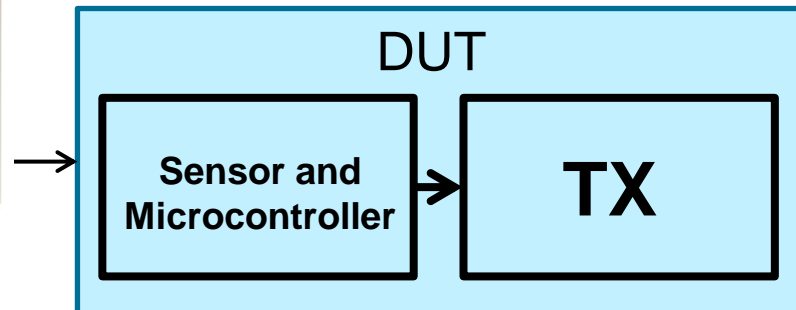
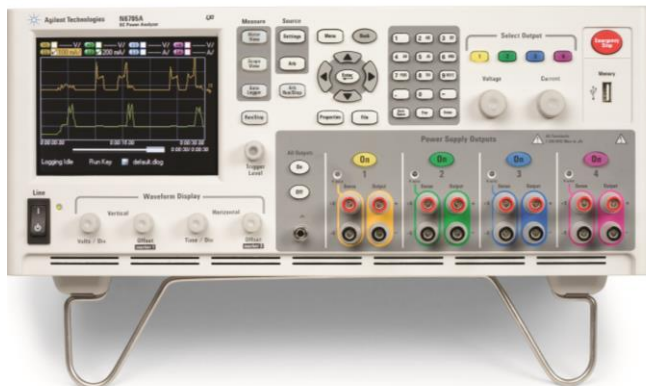
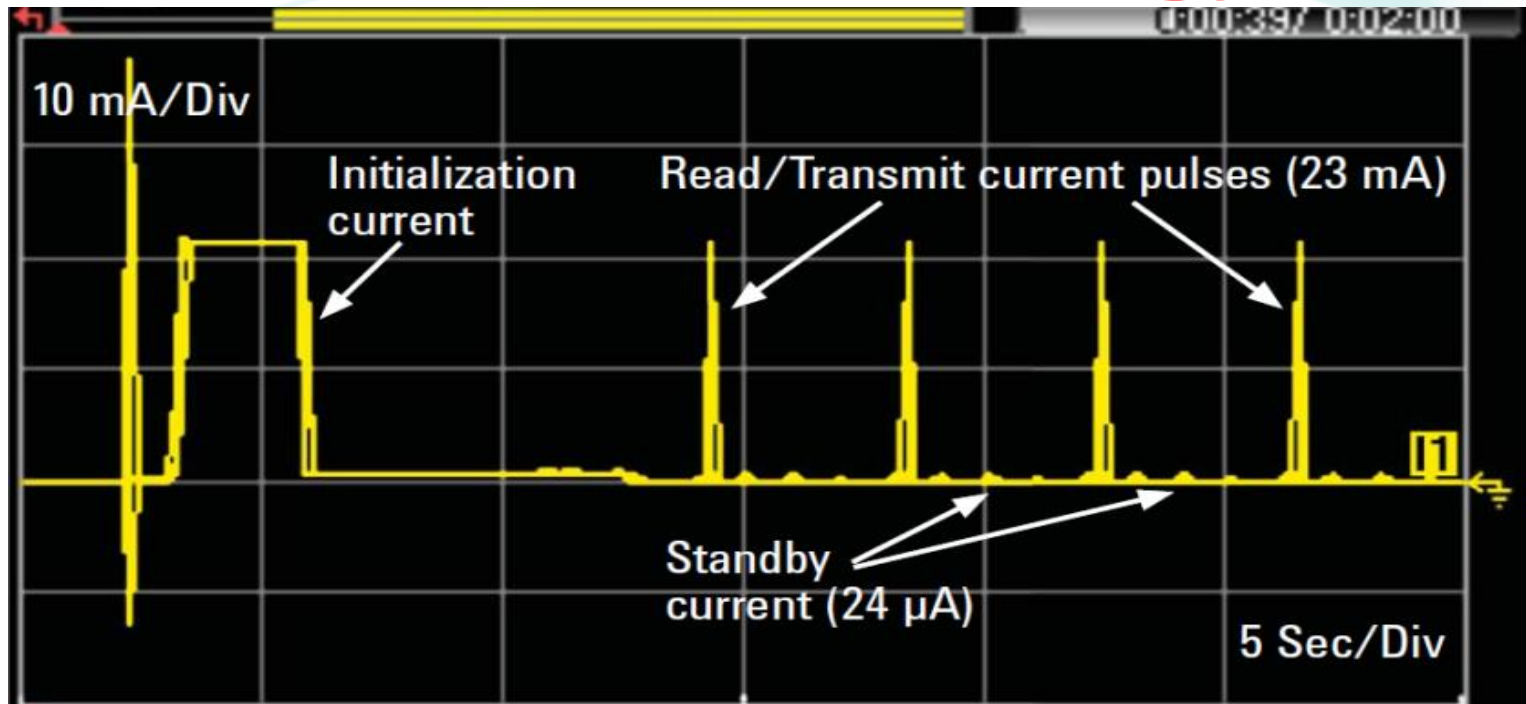
○ = Seamless range change



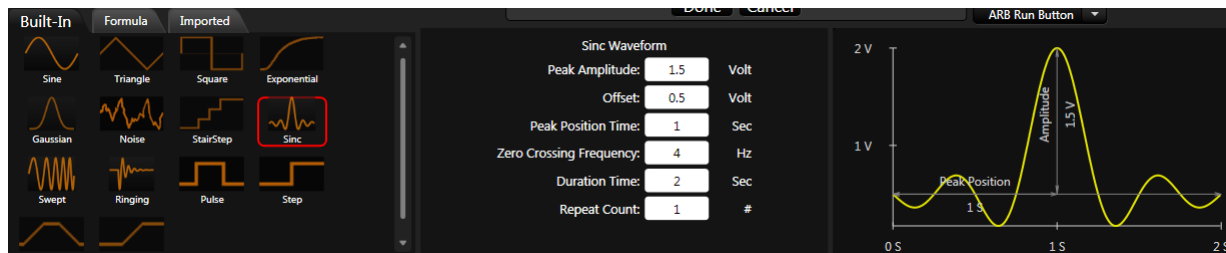
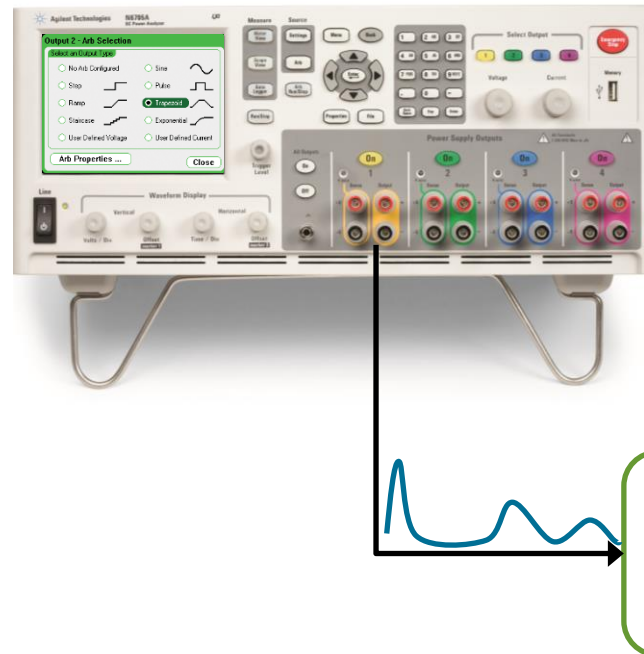
Industry demand: battery less sensors



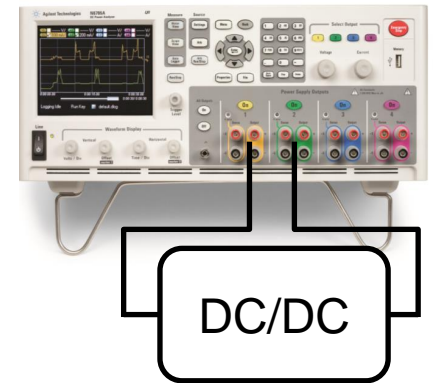
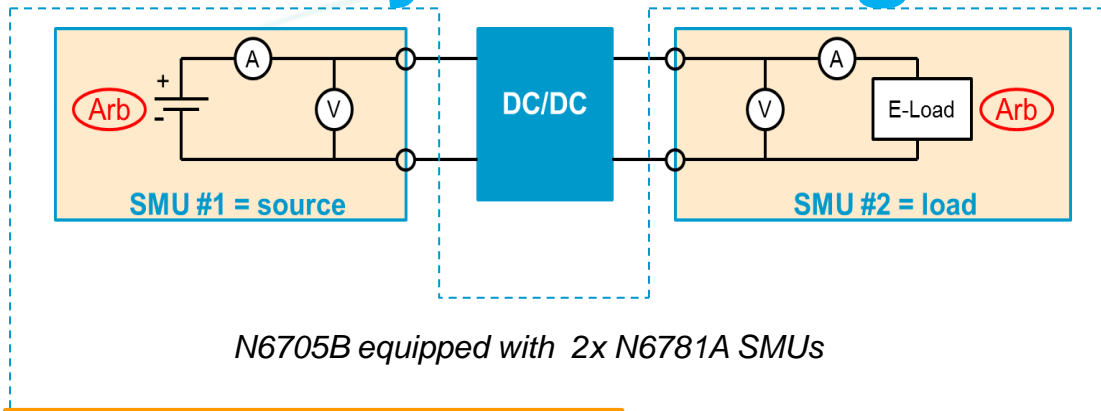
Load Optimization: energy drain



Source Simulation: Arbitrary energy waveforms



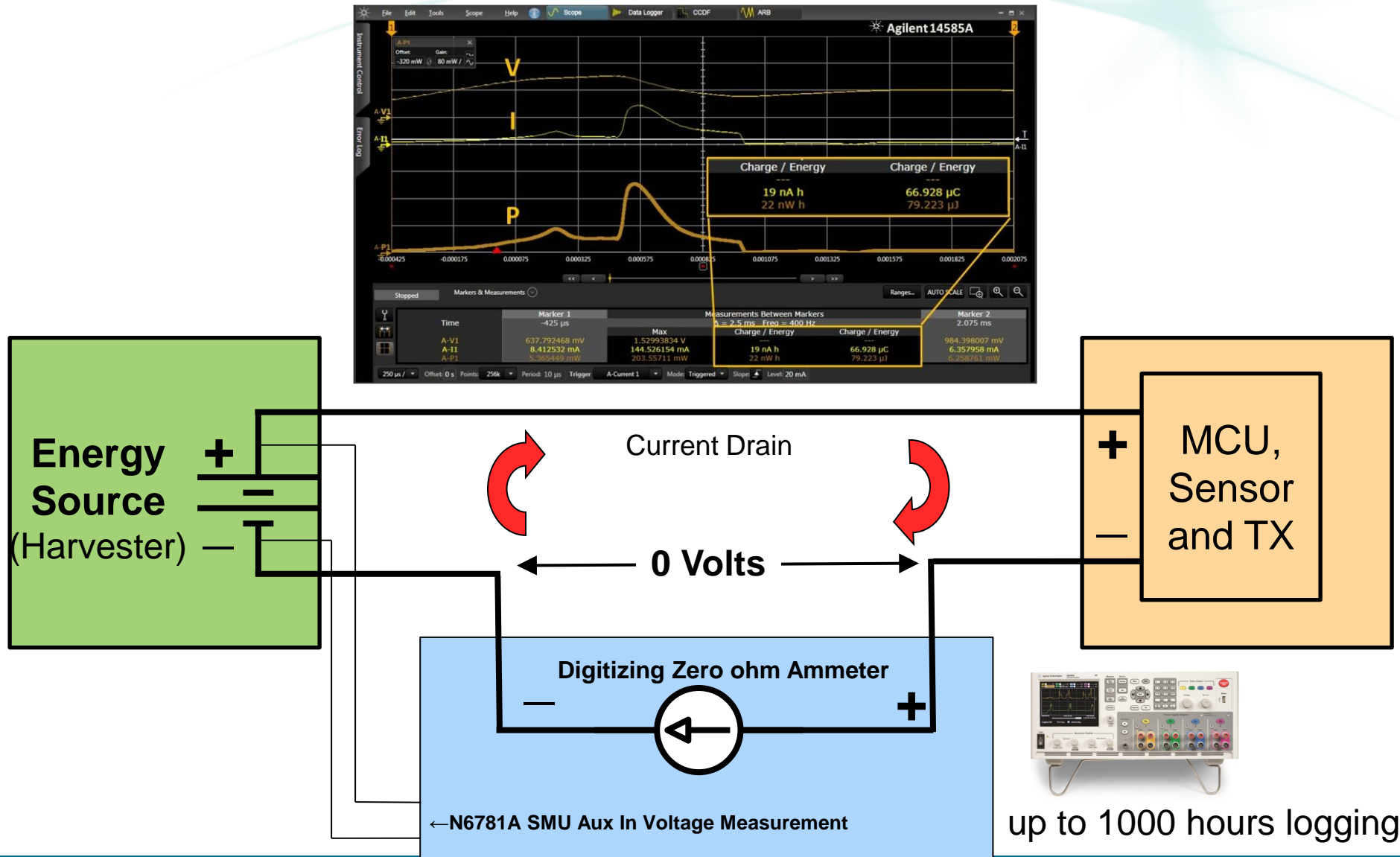
Efficiency in Voltage conversion



The seamless ranging can measure accurately the voltages and currents.

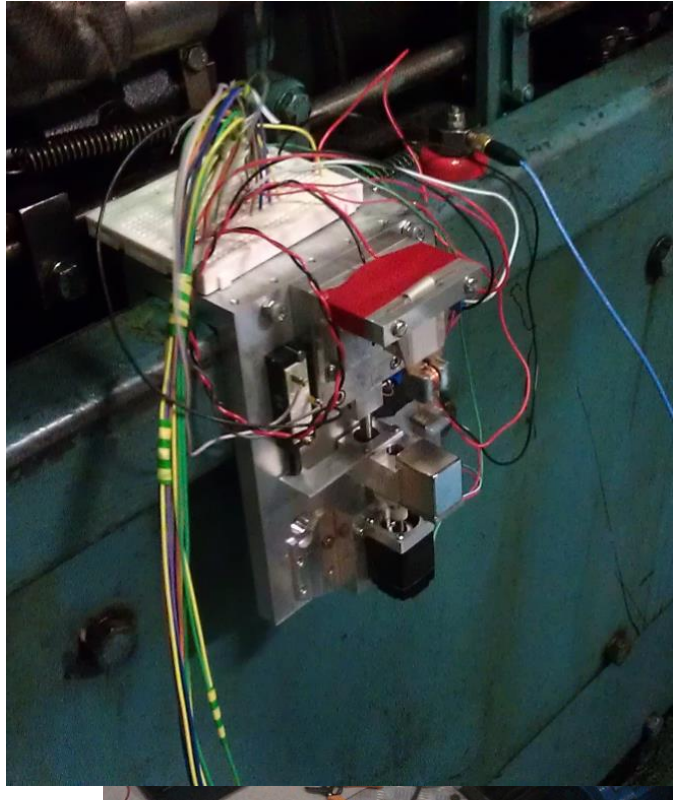
Real source and load profiles can be simulated with arbitrary

Validation: Virtual ammeter and datalogger



Harvester Optimisation – Vibration Example

Power output from the harvester tested on ferry



Note: Power is negative as it's absorbed by the N6781A SMU

Harvester
energy DC source



N6781A SMU used as DC Dynamic Electronic load

Courtesy: University of Southampton
Dr Alex Weddell - Holistic project
www.holistic.ecs.soton.ac.uk

Conclusion

Agilent **Seamless Ranging** innovation
simplify complex measurement task with
accuracy never seen before

www.agilent.com/find/N6781A-EU



Proposal for two University projects

1 Submit your research proposal by April 15th

2 Agilent will choose two proposals to sponsor with a loaner

#3 The two selected projects will get a 1 month
N6781A/N6705B free loaners before the end of July

note: Europe only

contact: carlo_canziani@agilent.com



Questions



Visit the table
demo

*“Save the Planet
One Battery at Time”*



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Thank you

