

AMI in Samoa

EPC Smart Meter Project 2021 Update



OUTLINE

- ✓ **Project Background** – *why AMI?*
- ✓ **Smart Meter Featurette** – *simply what are Smart Meters?*
- ✓ **Internal Impact** – *how has AMI changed EPC?*
- ✓ **External Impact** – *All for AMI, AMI for all.*
- ✓ **Deployment Challenges** – *No pain no gain.*
- ✓ **Project Evolution** – *The future depends on what you do today.*
- ✓ **Conclusion** – *No could haves or should haves, just haves.*

PROJECT BACKGROUND

Why AMI?

- Major **limitations** with old prepayment system, poor meter data integrity, and costly manual processes.
- AMI plays a major role in developments leading up to **Samoa Energy 2025**.
- In 2018, EPC partnered with Itron to **overhaul its prepaid electricity system**.
- 2019 saw EPC rollout SL7000 AMI meters to heavy consumers, and its domestic rollout in **2020** onwards.



SMART METER

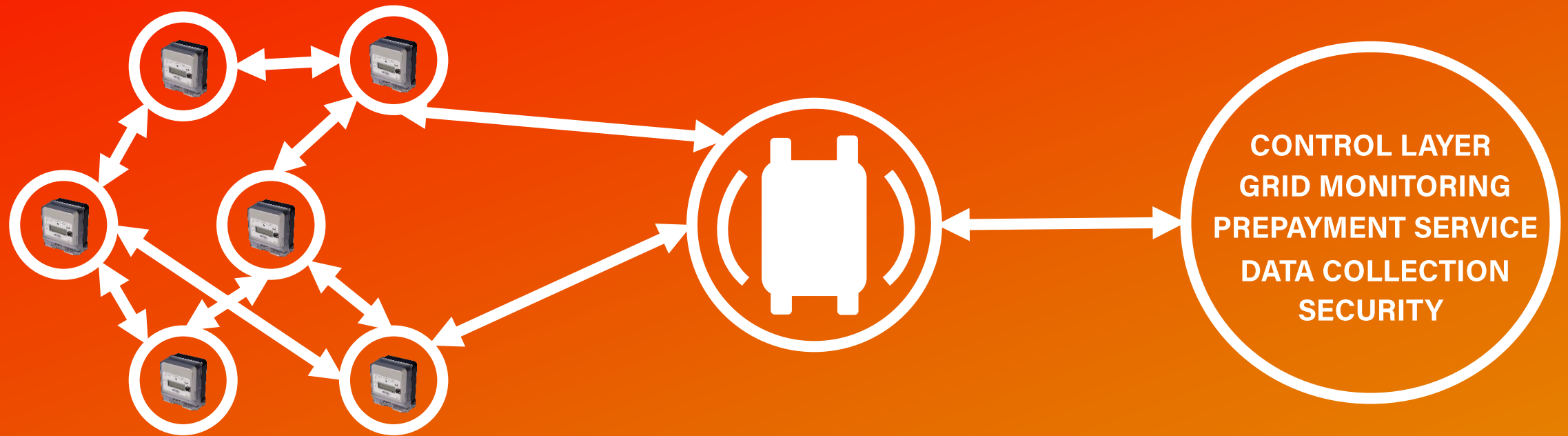
AMI Featurette, what are smart meters?

- Smart meters are electricity meters that communicate information in a **two-way system**.
- Communicates information to the electricity consumer for **greater clarity**, and to the electricity supplier for **system monitoring and customer billing**, to name a few.
- Electricity supplier has access to **meter control** too – display screen updates and switch controls.
- Smart meters can be at your home or substations - **smart grid** elements!



SMART METER

AMI Featurette, what are smart meters?



RF ENDPOINT MESH

CONNECTED GRID ROUTER

HEAD-END SYSTEMS

INTERNAL IMPACT

How has AML changed EPC?

- ✓ Significantly improved **data integrity**, across production and demand.
- ✓ AMI introduced a whole new level of insight to **technical and non-technical parameters**.
- ✓ **Processes** have been significantly improved and simplified - greatly **reducing related expenses**.
- × Decreased reliance on **estimations** and **mis-alignment** of production and demand/billing data.
- × Decreased reliance on **guesswork** and **pro-longed fault finding** across the grid or at a property.
- × Decreased reliance on roundtrip **meter reading**, and site visits for non-technical meter issues.

EXTERNAL IMPACT

All for AMI, AMI for All.

- ✓ Enabling electricity consumers to **keep track of their energy consumption** – via online portal and mobile app.
- ✓ Consumers are able to top-up their **prepayment accounts online**, via the new mobile app or online portal.
- ✓ Significantly improved **support** from EPC Customer Service.
- × No more reliance on **phone calls or office visits** to understand usage and tariffs applied. No more site visits by EPC to collect data.
- × Decreased reliance on **in-store top-ups**, especially during afterhours when no outlet is open.
- × EPC Customer Service staff don't have to **scramble for information** about a fault.



DEPLOYMENT CHALLENGES

No Pain, No Gain.

SPECTRUM REGULATIONS

SPECTRUM INTERFERENCE

CONSUMER ACCEPTANCE

PUBLIC AWARENESS

NO HOLIDAY (JK)

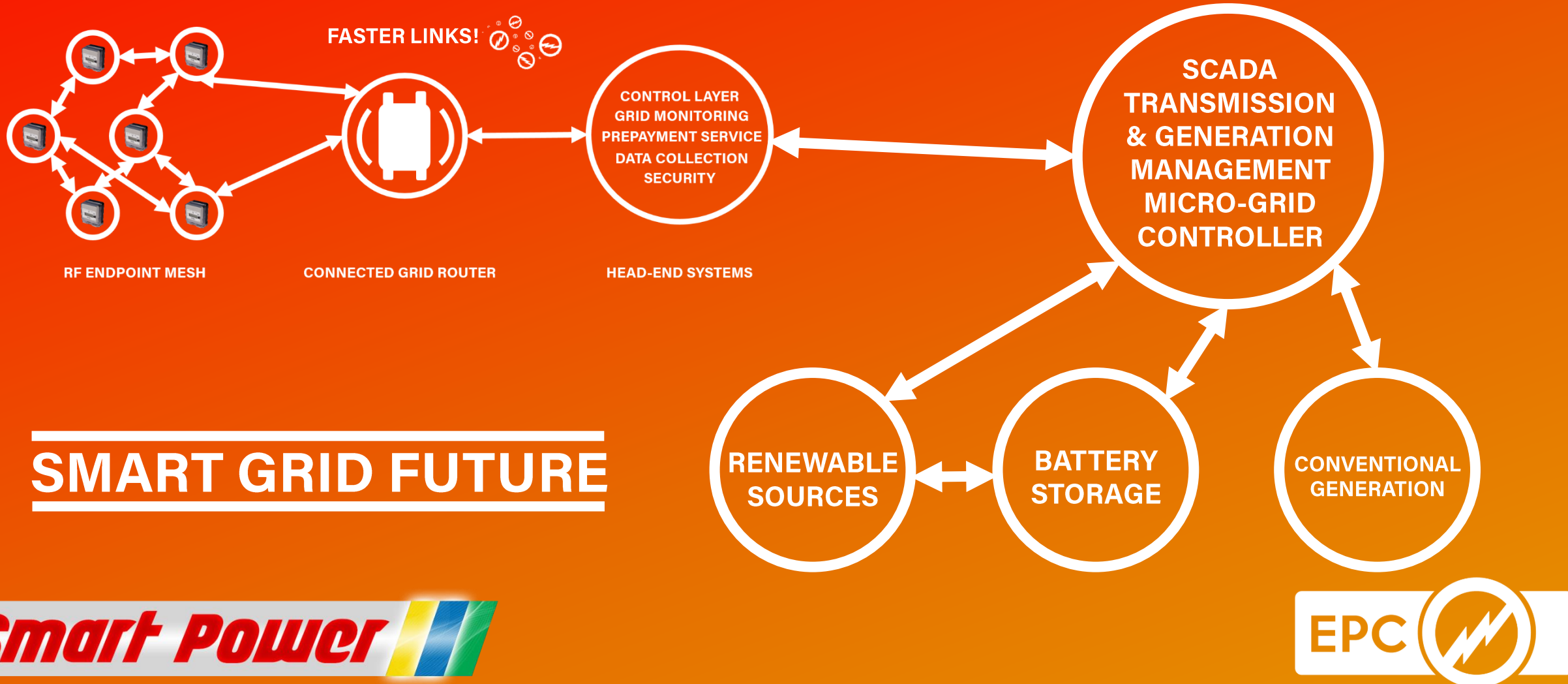


...strategic and effective dialogue is key!



PROJECT EVOLUTION

The future depends on what you do today.



PROJECT EVOLUTION

The future depends on what you do today.

- ✓ **Reduced commercial losses** – ultimately lower electricity tariffs.
- ✓ **Effective monitoring of energy export/import** (real-time or near-real-time).
- ✓ **Energy theft detection.**
- ✓ **Effective monitoring of power quality** (voltage profiles, etc).

“Smart grids are, undoubtedly, the definitive solution for managing electricity distribution in a world dependent on renewable energy.”

- Inderpreet Kumar, IEEE 2021

CONCLUSION

No could haves or should haves, just haves.

- EPC have deployed a substantial layer of advanced metering infrastructure, or smart meters, to over 15% of it's customers by July 2021.
- Smart meters enable substantial sustainability benefits for both the utility and electricity consumer.
- Regulations and policies were key obstacles to AMI deployment in Samoa.
- Smart meters are core to a Smart Grid architecture that will enable a largely renewable and sustainable grid.