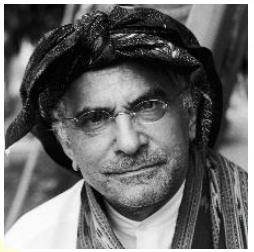
Asia Connect Center

University of St.Gallen



Timor Foundation

# Digitization as Enabler for Job Creation & Infrastructure Development in

**Prof. Dr. Roger Moser**

*Professor, University of St.Gallen &*
*Founding Board Member, Timor Foundation*

SCOPE ASIA Timor

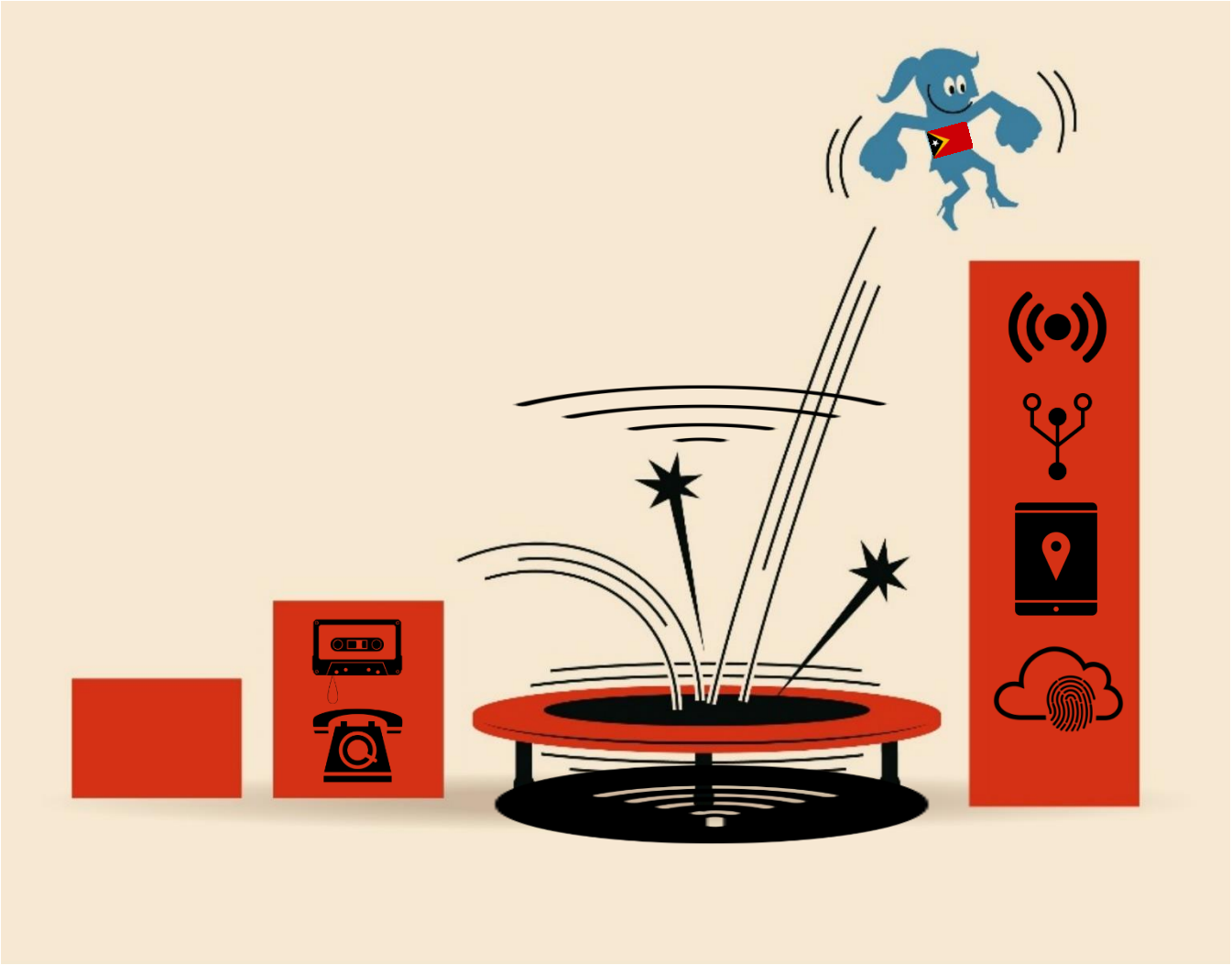
- ✓ **DIGITIZATION** is *never* a substitute for education.
  However, until countries like Timor-Leste have adapted their education system, digitization can also support the current work force .



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- ✓ **DIGITIZATION** is a chance for countries like Timor-Leste to cope with its institutional voids and catch up with more developed countries.



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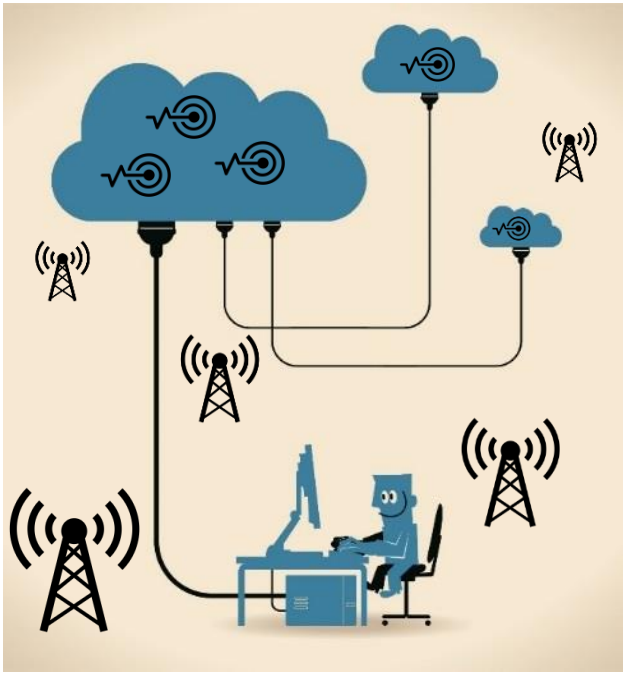
***WHY?***

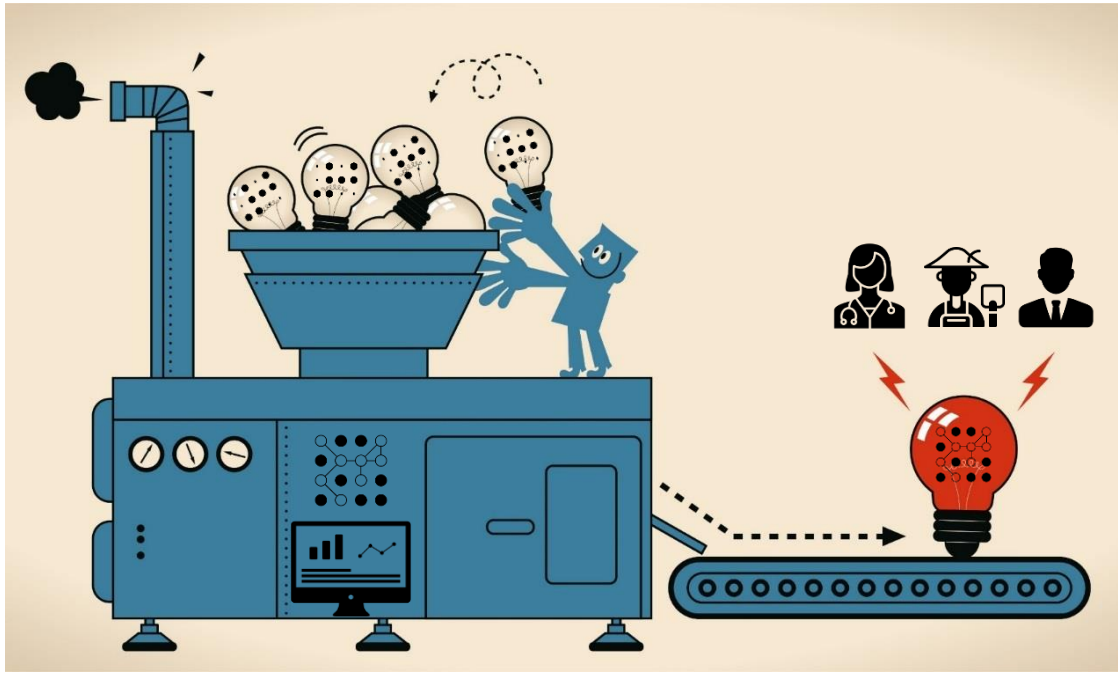
- ✓ **DIGITIZATION** enables countries like Timor-Teste to empower semi-skilled people and coordinate decentralized infrastructure systems.



***HOW?***

- ✓ **DIGITIZATION** allows for the efficient collection of data from the environment (e.g. via Low Power Networks) and the application of advanced analytics to improve the decision making of semi-skilled people.





***EXAMPLES?***

- ✓ **TIMOR FOUNDATION:** The Timor Foundation and its partners have established a seamless process to support the development & implementation of education and infrastructure concepts in Timor-Leste.

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***Innovation & Expertise***





***Adaptation & Testing with Donations & Impact Investments***



***Scaling-up & Commercialization via SCOPE ASIA as Solution Integator***



***Education & Infrastructure Solutions***



# *EXAMPLE: Facilitating the Access to Clean Water in Timor-Leste: Water Shop Management combined with "Last-Mile" Logistics (ongoing)*

## Water shops also as "last mile" logistics backbone…

*The water shops we have built in Dili and Oecusse can not only be managed by a specially developed water shop software from Jivana Vitality but the software also allows the water shops to leverage their customer relationships and logistics activities for "last mile" services.*







## Trunz Wall Mounted (TWM) Water Filter Machine

*The TWM is a special solution for smaller buildings and organizations where software will allow for the optimal use of the available water also for the neighborhood.*

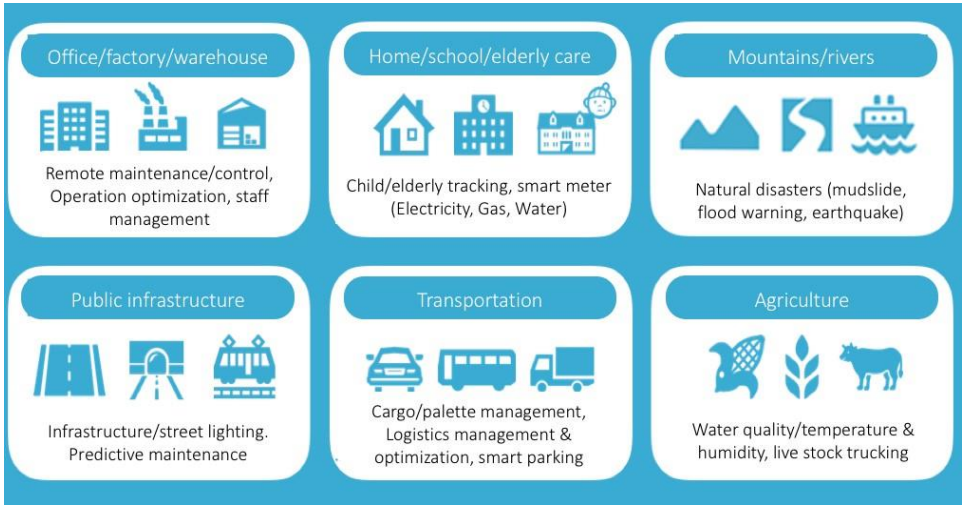
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# *EXAMPLE: Turning Timor-Leste into a Smart Country – Building a Low Power Wide Area (LoRaWAN) Network (in discussion)*

## Establishment of a Low Power Wide Area (LoRaWAN) Network

*Low Power Wide Area Networks allow for a cost-efficient application of all kinds of sensors to improve agriculture, real-estate, transportation and even healthcare.*

| | **Local Area Network** Short Range Communication | **Low Power Wide Area** (LPWAN) Internet of Things | **Cellular Network** Traditional M2M |
|---|---|---|---|
| | **40%** | **45%** | **15%** |
| ☺ | Well established standards<br>In building | Low power consumption<br>Low cost<br>Positioning | Existing coverage<br>High data rate |
| ☹ | Battery Live<br>Provisioning<br>Network cost & dependencies | High data rate<br>Emerging standards | Autonomy<br>Total cost of ownership |
| | Bluetooth 4.0, ZigBee, Wi Fi | LoRa | GSM, 3G+ / H+, 4G |




- ✓ *Distance between sensors and tower can be more than 10km*
- ✓ *Battery lifetime of a sensor can be more than 5 years*
- ✓ *Open standard – low costs*
- ✓ *Geo-location & bi-directional*
- ✓ *High data security*

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# *EXAMPLE: Digitizing Public Transport in Timor-Leste (in preparation)*




**Development of an *on-demand* Public Transportation System**

*It allows you to book a ride on your phone that costs little more than a public bus but is as flexible as your schedule.* ***It's on-demand transport on a mass scale****, that is friendly to our planet.*

trackyourcity from Door2Door

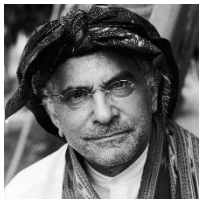
ally mobility app from Door2Door

allygator shuttle from Door2Door

- ✓ *No changes to the existing "ecosystem"*
- ✓ *More efficient and effective public transport*
- ✓ *Possible expansion of public transport to more remote areas…*

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## ✓ Contact?



**Dr. José Ramos-Horta**
President of the TIMOR FOUNDATION



**Ms. Barbara Lietz**
CEO of the TIMOR FOUNDATION
Rua Sergio Vieira de Melo, Farol, Dili, Timor-Leste
www.timor-foundation.com
info@timor-foundation.com



**Prof. Dr. Roger Moser**
University of St.Gallen (HSG)
ASIA CONNECT Center-HSG
Dufourstrasse 40a, 9000 St.Gallen, Switzerland
www.acc-hsg.org / www.acc.unisg.ch
Roger.Moser@unisg.ch



**Januario Carvalho**
Country Manager
SCOPE ASIA Timor LDA
Rua de Unidade Nr. 431, Timor Plaza, Dili Timor-Leste
+67 0777191756
www.scope-asia.com
j.carvalho@scope-asia.com