

Internet of Things (IoT) Market worth 561.04 Billion USD by 2022

2017 Source: www.marketsandmarkets.com

Smart Grid Market 50.65 Billion USD by 2022, CAGR of 19.4%

2017 Source: www.marketsandmarkets.com



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Co-Founder

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SWiRL SA –Your Digital Society Clean Energy Company

A Lean Business Organisation for creation, management and valuation of decentralized clean energy value chains.

SWiRL SA is Luxembourg winner in <http://startupeuropeawards.eu/winners17> in the Category Climate www.sparknews.com

BUSINESS DEVELOPMENT

G.S.I. Global Strategy International

Paris, Luxembourg

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Lux-Channel

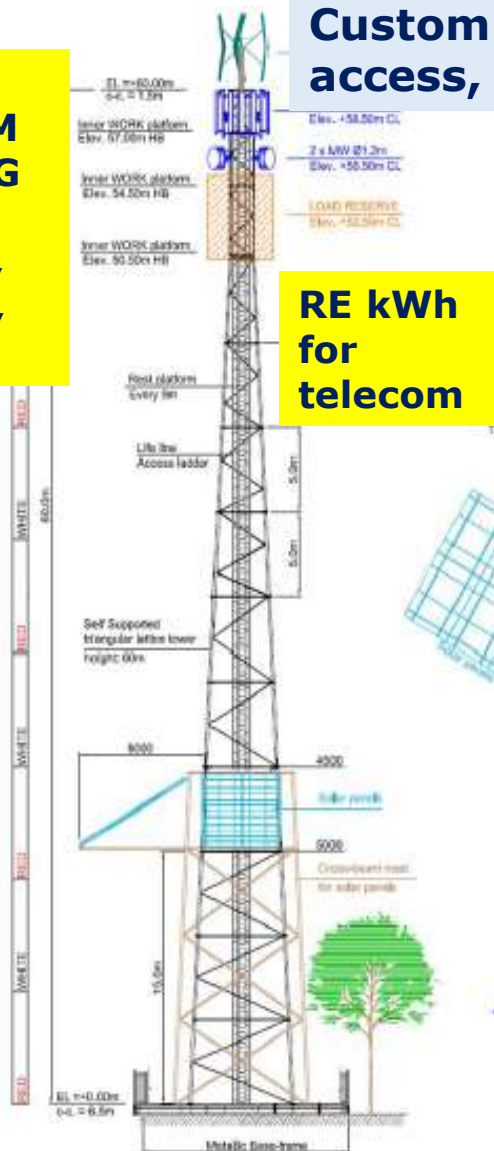
Flaxweiler, Luxembourg

Mrs. Rose Jiang (China)

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Custom Decentralized 50 to 100 kW Hybrid Intelligent ICEMGs for rural electricity access, clean drinking water, lighting and e-services

kWh + GSM 3G/4G 5G, VSAT, DTTV, IoT



RE kWh for telecom



RE kWh for water treatment and drinking water generation by ambient air condensation, RE & water usage for washing machines

www.reddtogo.tg



**Multilevel
Semiotic
Fuzzy Logic**

**Interfacing User and Metadata
Cognitive capability**

Example



**Information Architecture for ICEMGs,
Intelligent Clean Energy Mini-Grids with
Interactive Multimedia System API**

Level 2 : System type (Hybrid ICEMG)

Level 3 : Metadata (local climate, camera, sensors)

Level 4 : Wind turbine

Level 6a :
Production kWh
Others: Water, Service

Level 6 : Production

Level 5 : Hybrid system
Batteries, PV,
Consumption,
Water, others

Level 6b :
Production value

Level 8: BAMAKO 1
ICEMG on cloud

Level 7: Payment
e-card, crypto
Blockchain

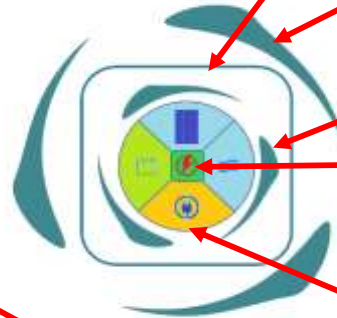
Semiotic API = f. ex. Company Logo

Level 1 : User

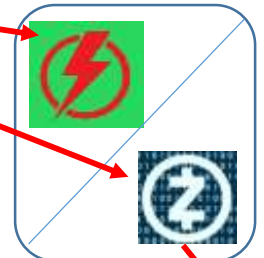


Level 0 : Entry

Type
Object Name



**BAMAKO 1
ICEMG**



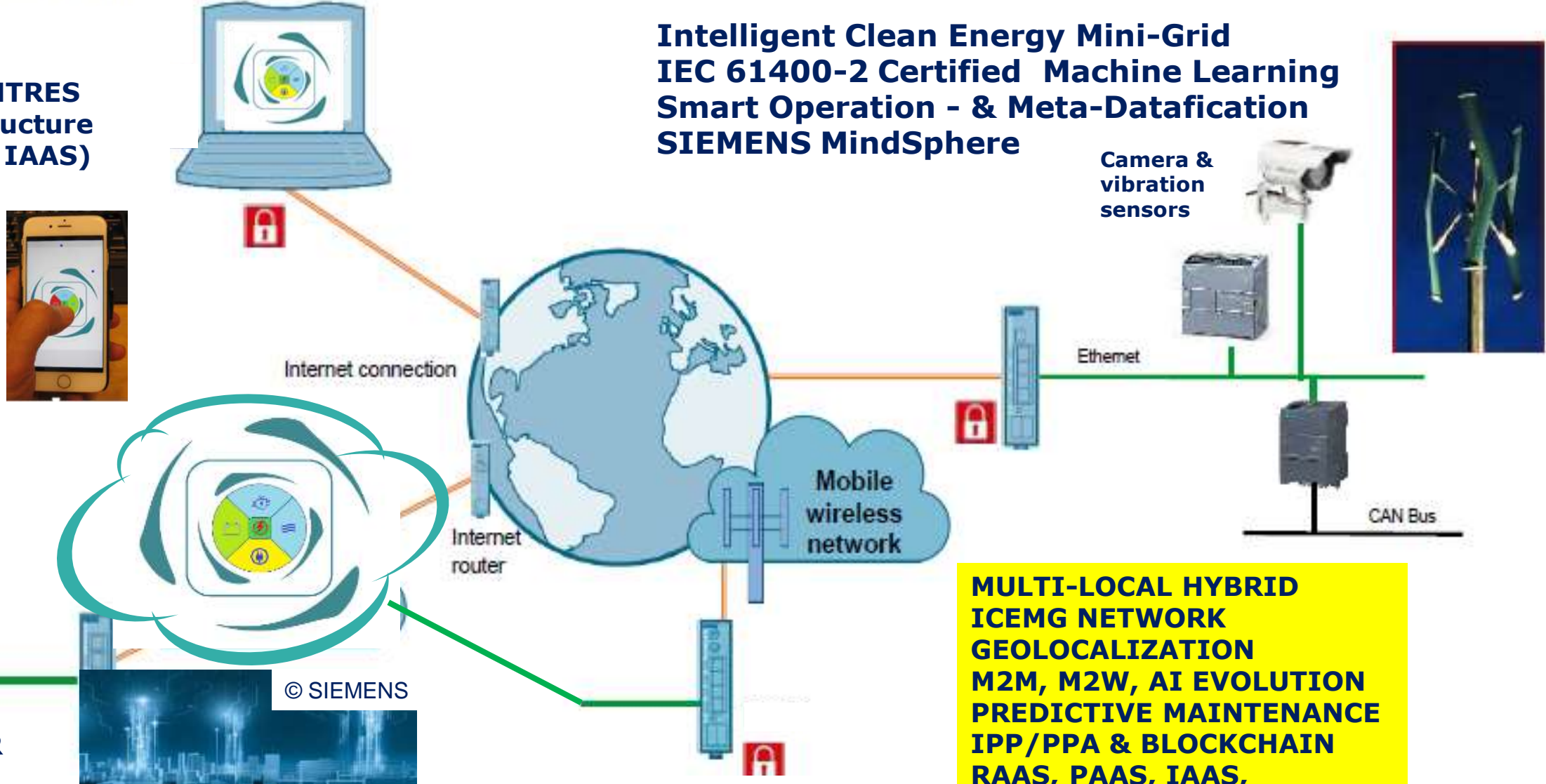
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MindSphere Cloud

**REGIONAL
DIAGNOSTIC
SERVICE CENTRES
(DeC infrastructure
RAAS, PAAS, IAAS)**

**Intelligent Clean Energy Mini-Grid
IEC 61400-2 Certified Machine Learning
Smart Operation - & Meta-Datafication
SIEMENS MindSphere**



**DATA CENTER
Luxembourg**

MindSphere Cloud

**MULTI-LOCAL HYBRID
ICEMG NETWORK
GEOLOCALIZATION
M2M, M2W, AI EVOLUTION
PREDICTIVE MAINTENANCE
IPP/PPA & BLOCKCHAIN
RAAS, PAAS, IAAS,**



Ghana © Ezilon

Contact:

<http://mpiafrica.com>

**SWiRL: Agreement with mpiafrica.com for ECOWAS Countries (tower engineering, supply, installation)
Potential for local PV supplier for ECOWAS**

GSM: > 5'600 towers (<https://www.towerxchange.com/whos-who-in-sub-saharan-african-towers-2018-update>)

<https://www.africa-eu-renewables.org/market-information/ghana/renewable-energy-potential>

<https://www.esi-africa.com/ghana-promotes-renewable-energy-in-off-grid-communities/>

ECOWAS/ECREEE & Worldbank: ROGEP (Rural Off-Grid Projects)
<http://www.ecreee.org/news/ecowas-launches-preparation-regional-grid-electrification-project-rogpep>



TOGO © togo-map.asp

Contact:

<http://mpiafrica.com>
www.cafe.tg

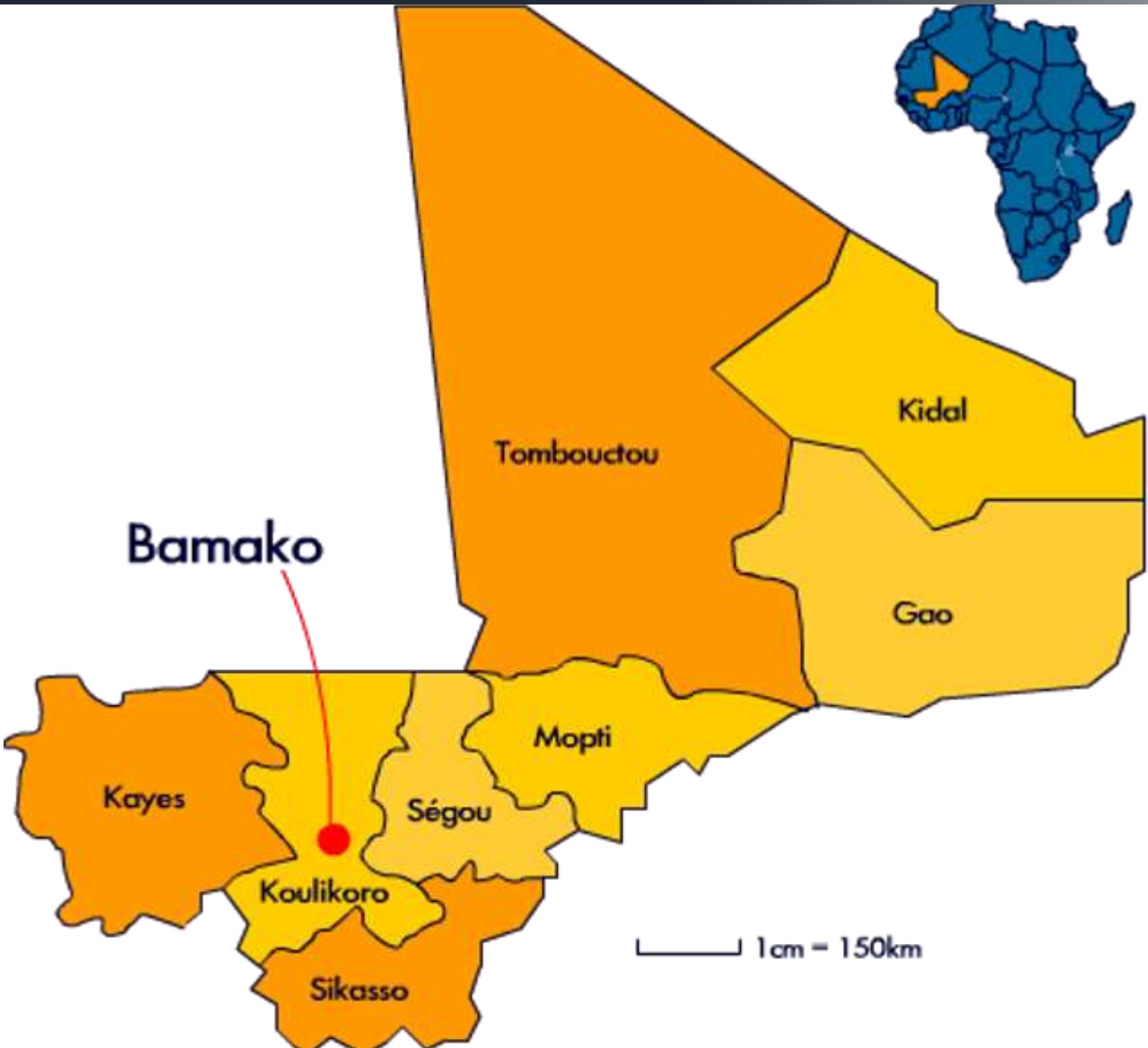
**SWiRL: Agreement with mpiafrica.com for ECOWAS Countries
(tower engineering, supply, installation)
Potential API Development for ECOWAS with local company**

GSM & Renewables

<https://www.iea.org/countries/togo/>

<https://www.iea.org/countries/togo/>

<https://www.se4all-africa.org/seforall-in-africa/country-data/togo/>



Mali

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Contact:

**Mali Business Group (www.hti.ml)
HTI, Barka Agro-Industry, VSAT, Mars TV**

Project potential

**703 communities: majority rural structures
RE & Communication & Digital Services
(Education, health, commercial)**

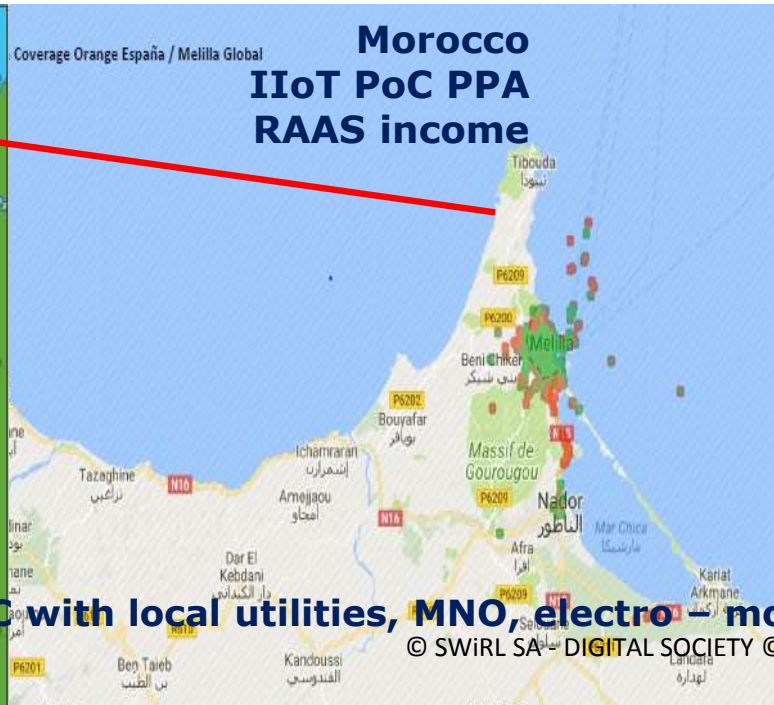
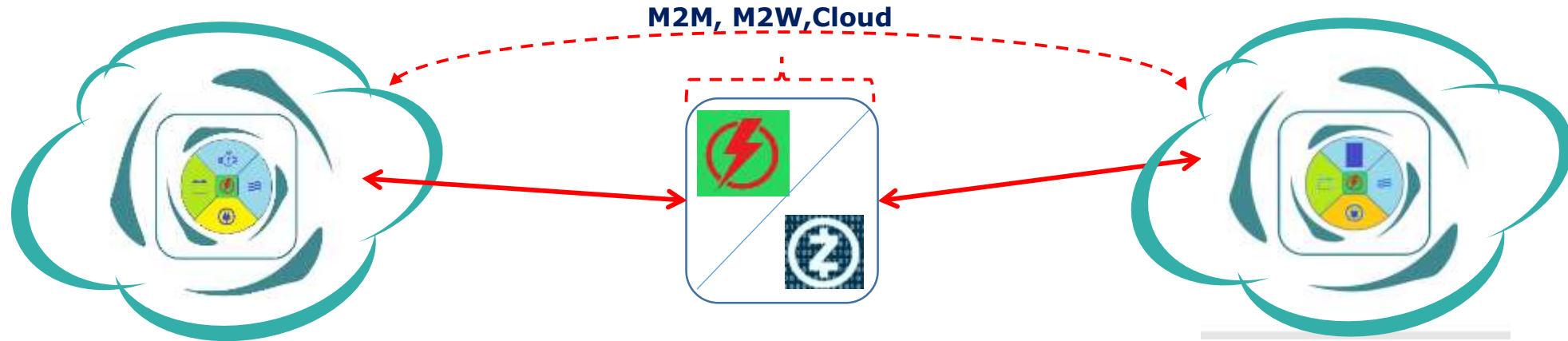
**The World Bank Mali Electricity Sector
Emergency Project (MESEP) (P166796)**

CREWS : Climate Risk & Early Warning Systems

Approx. need for 6'600 mini-grids (ECREEE)

DIGITAL SOCIETY CLEAN ENERGY

Intelligent Energy Synergy Management for Industrial IoT (IIoT)



Very high ROI potential of PoC with local utilities, MNO, electro – mobility, rural & urban hybrid Clean Energy Systems

**3D SYSTEM ARCHITECTURE:
Digital, Decentralized, Decarbonising**

Further documentation is available against MNDA & qualifying contact

**Feasibility studies on patent application vs licensing field can be made
at reasonable costs based on concrete LOIs**

Special high impact local projects

Non-competition agreements on particular license fields possible