

Experiences from Community Networks

Efrain Foglia
mexmafia@gmail.com

Leandro Navarro
leandro@ac.upc.edu



Local development of (Inet) infra/service

- Internet eXchange Points (IXP) aka transit exchanges
 - Local development of traffic exchanges
 - Lower latency, cost, increasing efficiency
- A socio-economic model: Development of a local ecosystem, maturity → scaling up, everywhere, everyone
- Community Networks: similar for local access

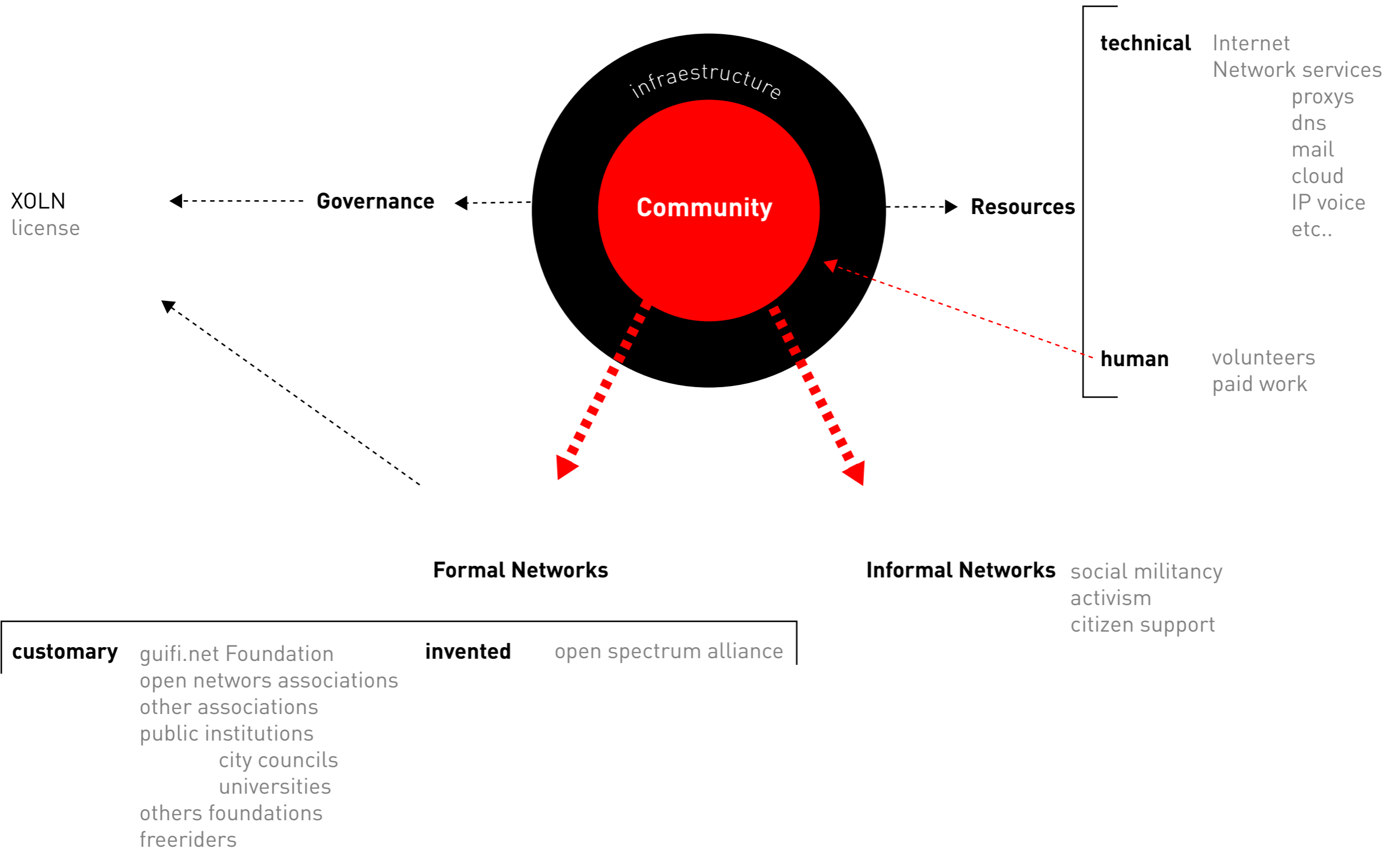


The case for Guifi.net

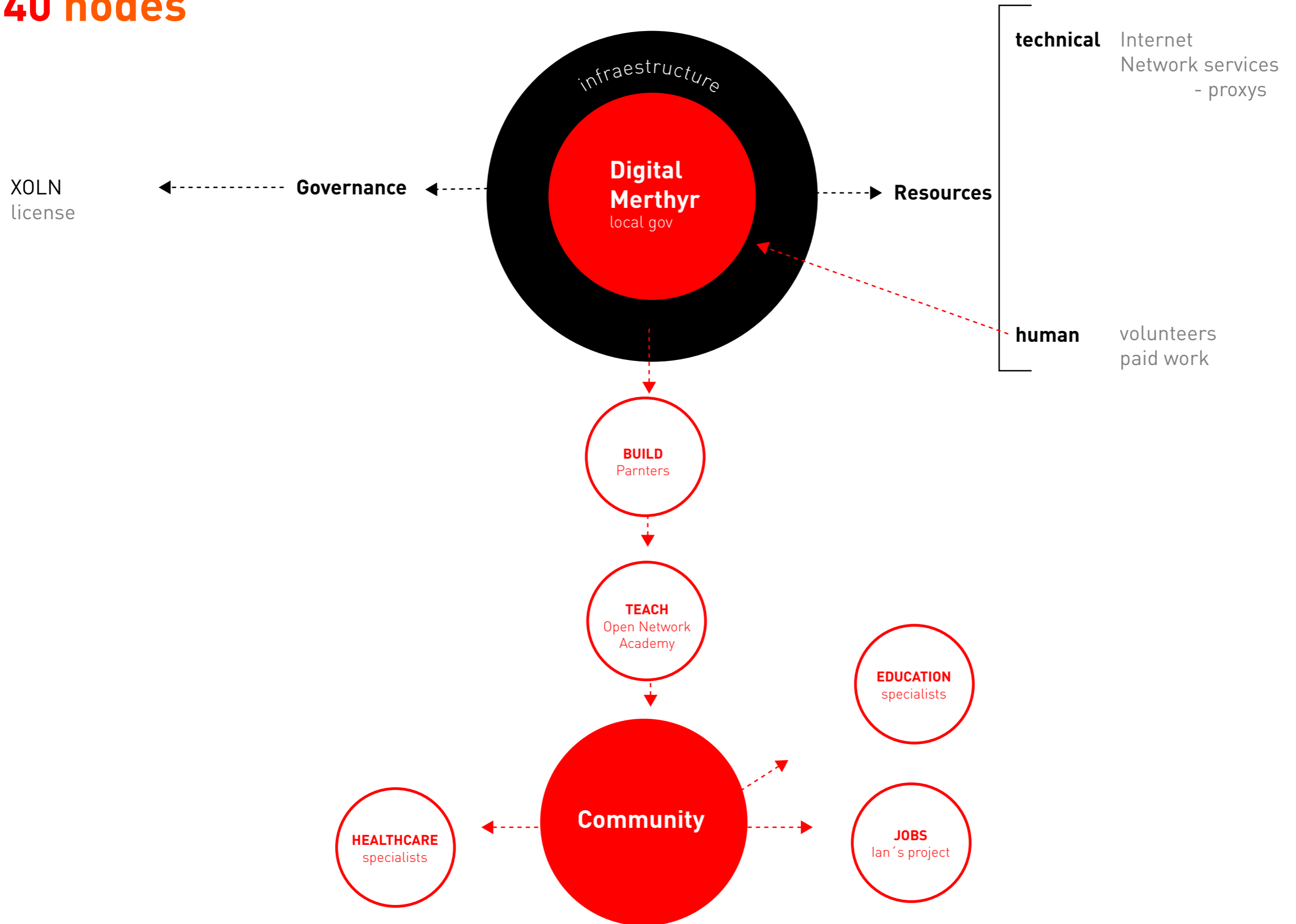


- Scalable open/cooperative model? 25K+ nodes
- Low-cost WiFi routers → Low-cost/complexity fibre
- Open knowledge (how-to-do), best practices, local workshops, software tools
- **Contact and plan w/neighbours, BYOD, accept license and enjoy!**
- Community: network (infra), node database (info), license (rules), arbitration (exceptions), legal fwk → open space
- Foundation: registered as network operator, active internal/external discussions on policies around access, neutrality, local economic development, etc.
- Geeks, citizens, lawyers, installers, SME (services), activists: relatively low entry barrier, low friction
 - SME: Competition in service, not in “ownership” or lock-in

25.698 nodes



40 nodes



Working quite smoothly ...

- Providing basic local net connectivity to members (point-to-point WiFi, fibre)
- Providing basic web access using spare capacity
 - Web proxies (LBE),
 - free Access Points,
 - coops/SME for uplinks with tunnels
- Sustainable cost sharing model:
 - Node+link deployment and maintenance
 - Fibre FTF (FTTH) deployments
 - Full Internet connectivity
 - Local connectivity for regional transport
 - Small garage datacentres
 - Starting in cloud services

Local cooperative net development

- From geeks to citizens, from net infra to local Inet ecosystem (individuals, social, commercial entities)
- Open knowledge, best practices, tools, trainings, procedures, bylaws, arbitration, cost sharing, create open spaces (to build and run infrastructure, services)
- Cooperation more effective than competition?
 - Reaches more, leaves margin from more, “takes-away less energy” ...
 - Cost sharing (among members/users = co-owners) vs revenue sharing (among investors) from user fees: more local impact
- Complementary: effective to bootstrap connectivity, to set a lower common base, even develop communities to co-exist with other models ...
- “Connected Communities” initiative !

References

- [Guifi.net](#) community network
- [Digitalmerthyr.org.uk](#) community network
- [Community-lab.net](#) testbed
FIRE, [Confine-project.eu](#)
- [Community clouds](#)
FIRE, [clommunity-project.eu](#)

