How to govern an ecosystem

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Cyberinfrastructure Ecosystem

Maintainability, sustainability, and extensibility

Courtesy Alan Blatecky

Internet history

- No grand design of the Internet
- No central management
- Evolution
  - Backbone → NAPs → IXPs
  - Research → users → commercial → political
- Innovation driven by the advanced requirements of the science community

Lessons learned (1)

- Cooperation between networks requires a shared control plane
- Centralistic models won't work
  - Complex to implement
  - Not scalable
- Create a loose cooperation between domains
  - Each domain creates its own solutions
  - Standardized interfaces between domains

Lessons learned (2)

- Keep it simple
- Architecture based on openness and diversity
- Multi-domain connected via Open standards
- Bottom up development together with users (with opposition from incumbents)
- Voluntary international cooperation

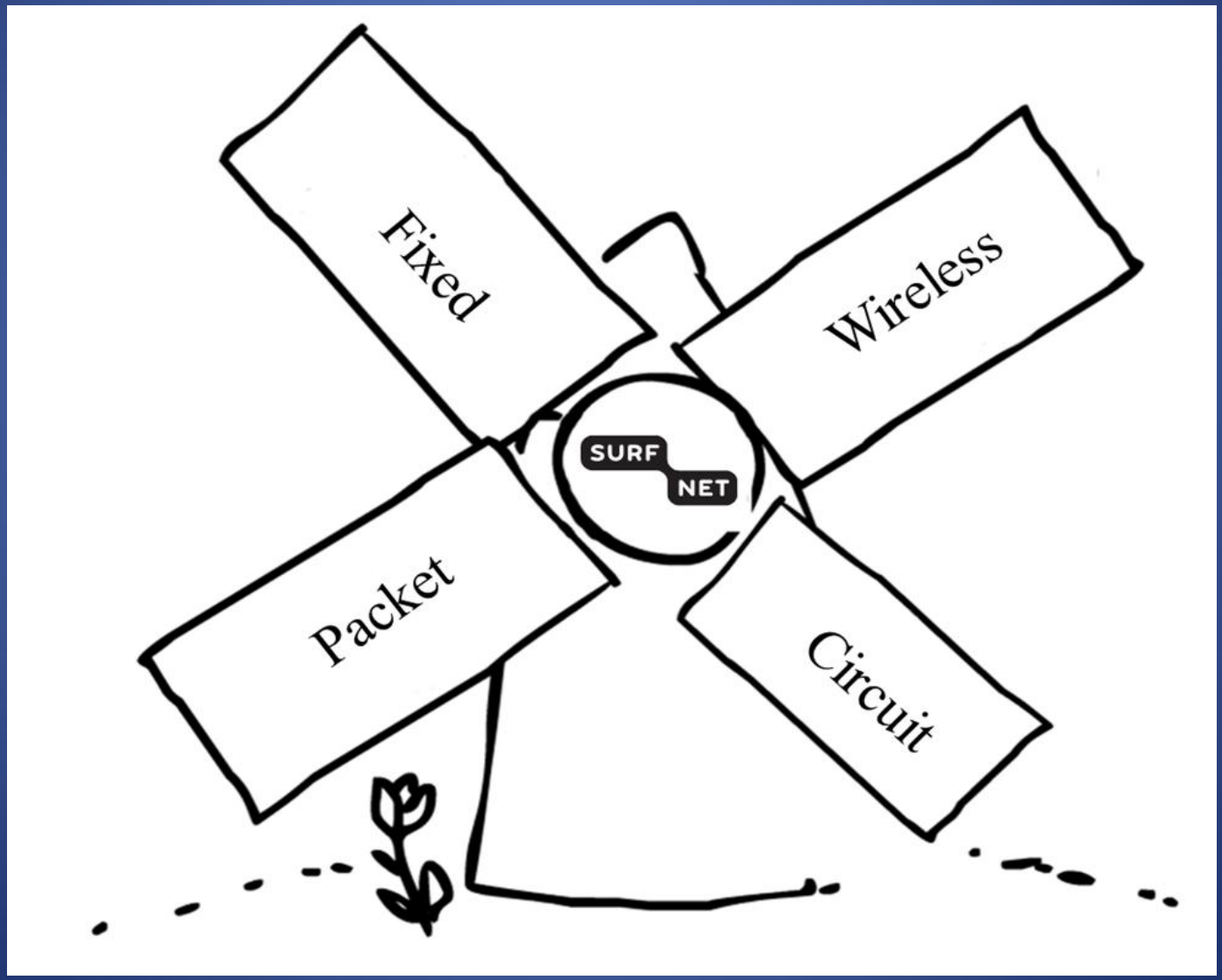
e-infrastructure innovation

- Will be driven through competition, co-operation and flexibility
- Needs openness, neutrality and diversity as guiding principles
- Must take account of the global context

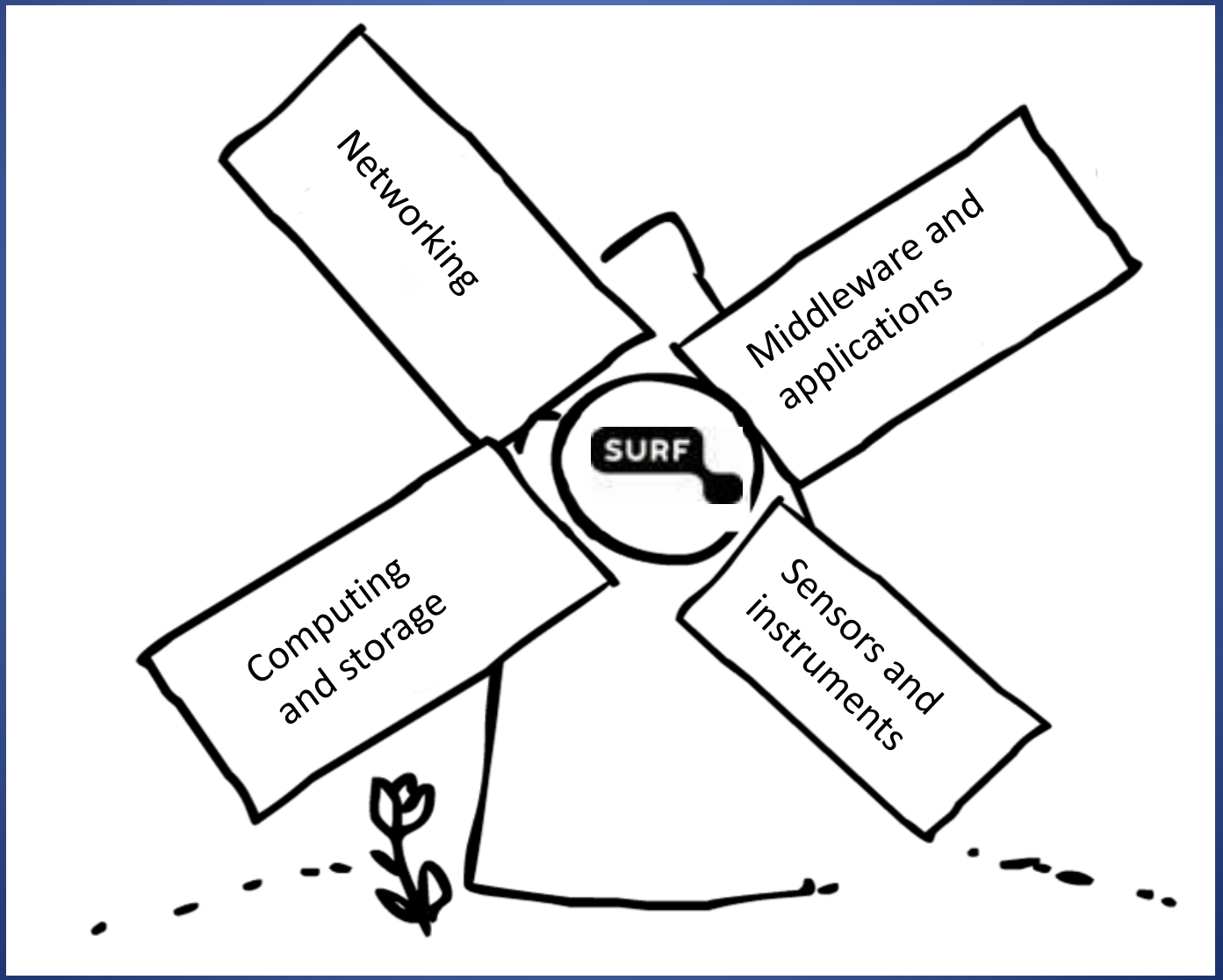
Distinguish three core functions

- Community building, high-level strategy and coordination (with a limited number of organisations and governing bodies)
- Service provisioning (on a competitive basis)
- Innovation (via multiple projects)

The new Internet



e-Infrastructure



Cooperation remains essential