

# FEAST

Project



Feasibility Study  
African European Research and Education Network Interconnection

## The Case for NRENs

(or why EVERY country should have ONE)

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## History in 3 steps

- **1970's – emergence of small projects to provide network services to research community**
- **1980's - Emergence of the first NRENs**
- **Most NRENs become separate not-for-profit entities**





## Why NRENs? (and not commercial services)

- **Telco monopolies**
- **Focus on voice traffic**
- **Pricing structure unaffordable for data traffic.**
  
- **Innovative culture of the community**
- **Pursuit of knowledge**
- **Academic rivalry**
- **Community Synergy**



## What NRENs are about

- **Taken what is available**
  - Phone circuits, modems, X.25, leased lines, dark fibre . . . . .
- **Integration**
  - Provided the glue to stick them together, overlay networks . . .
- **Innovation**
  - Added functionality
  - Development of new paradigms, services . . . . .
- **SERVE EDUCATION and RESEARCH**
  - push the market and benefit society generally
  - Technically and in liberalising the telecommunications market
- **NRENs are a NATIONAL ASSET for DEVELOPMENT**





## NRENs and ISPs

- **The NRENs operate a network for a closed user group that have advanced requirements**
- **These requirements are not generally satisfied by commercial offerings from ISP.**
- **The NRENs do not compete with commercial ISPs, but offer a different level of service in parallel.**
- **It is beneficial for both NRENs and ISP to develop collaborative links and work together**

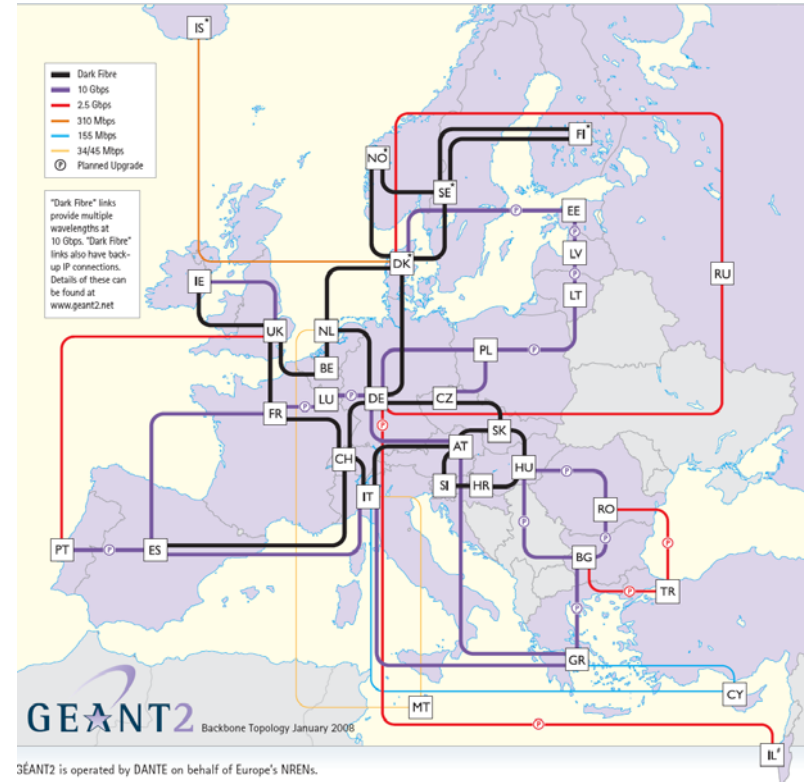


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## The European NREN Community



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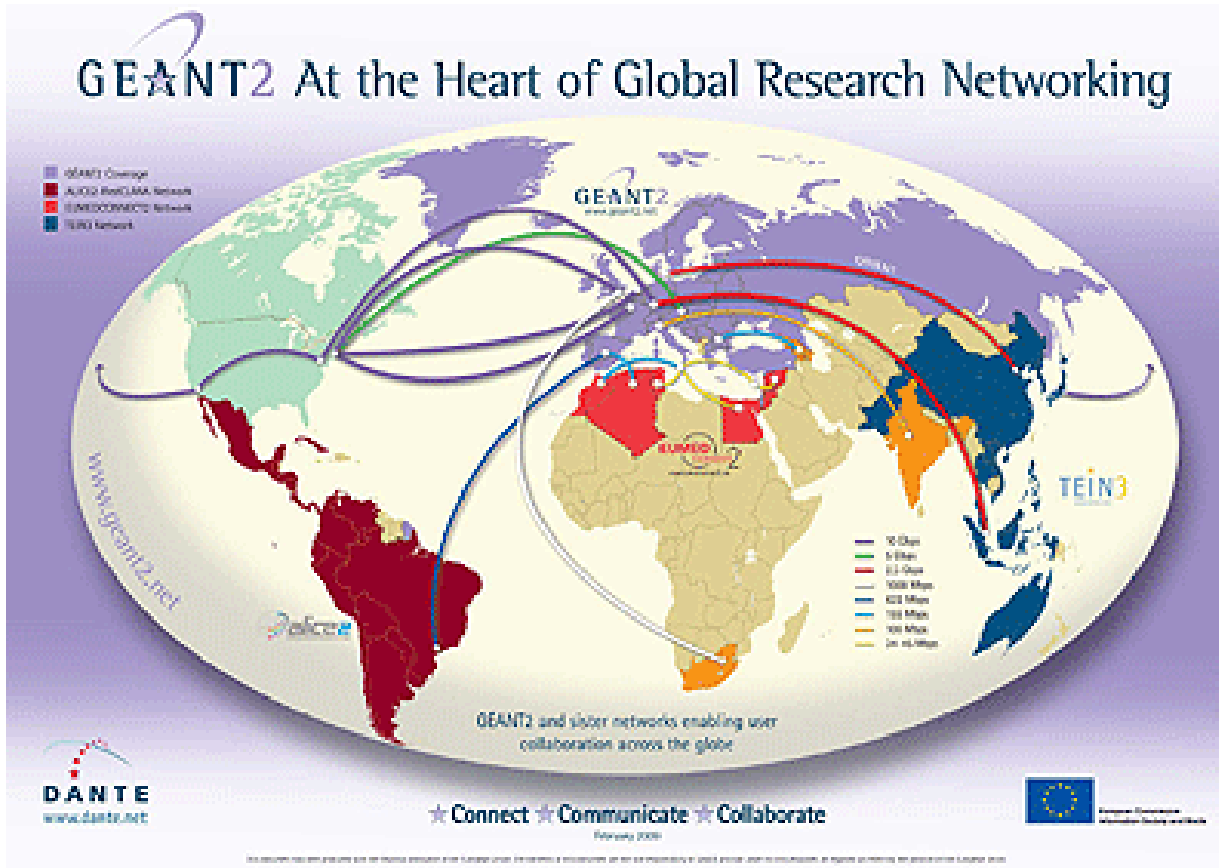
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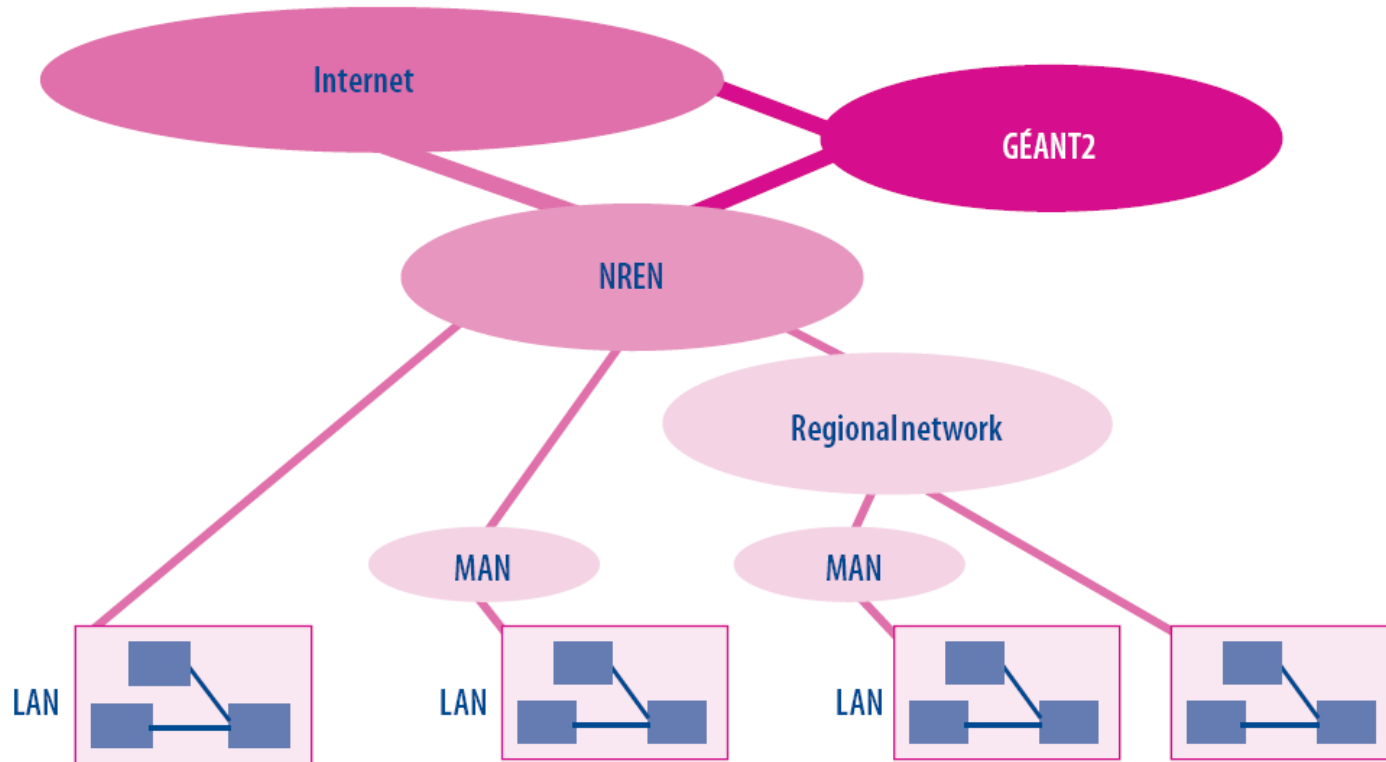
## The Global Community



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## Hierarchical Model



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## TERENA Compendium 9 years of data about NRENs



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[www.terena.org/activities/compendium/](http://www.terena.org/activities/compendium/)



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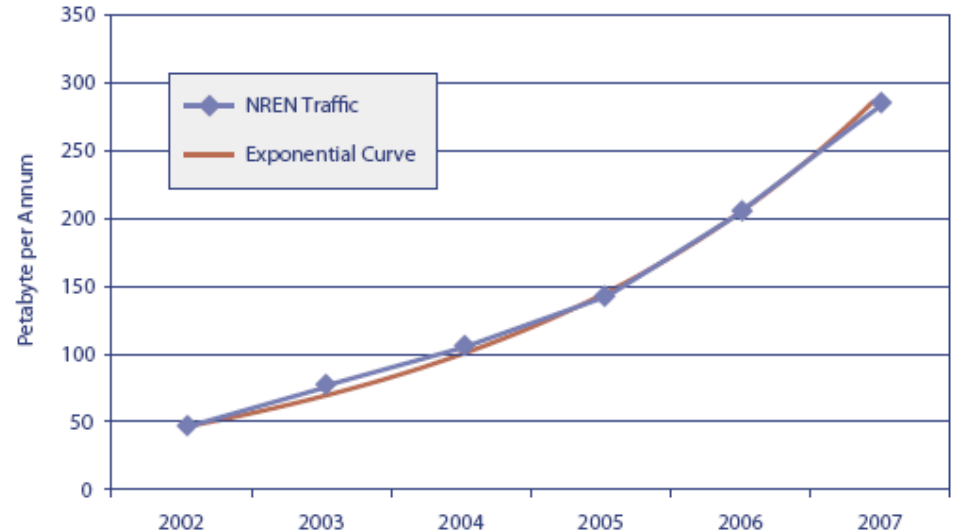
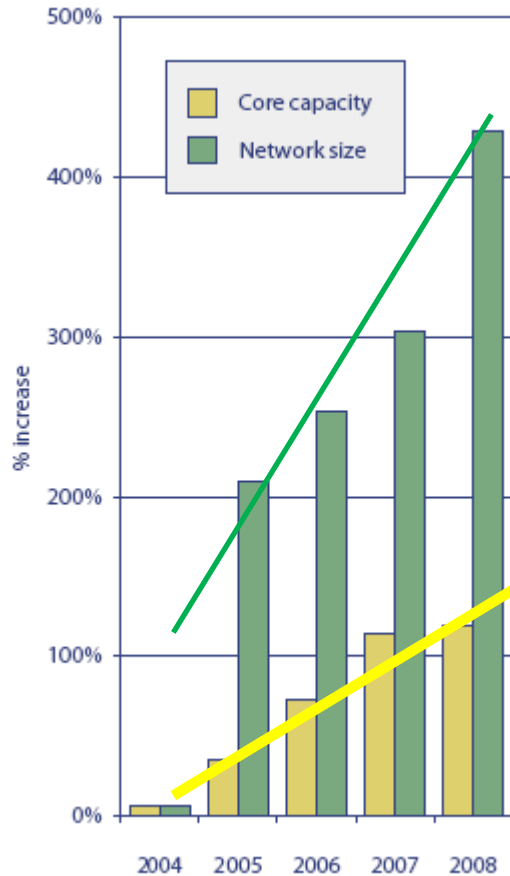
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## Increased capacity for stable costs



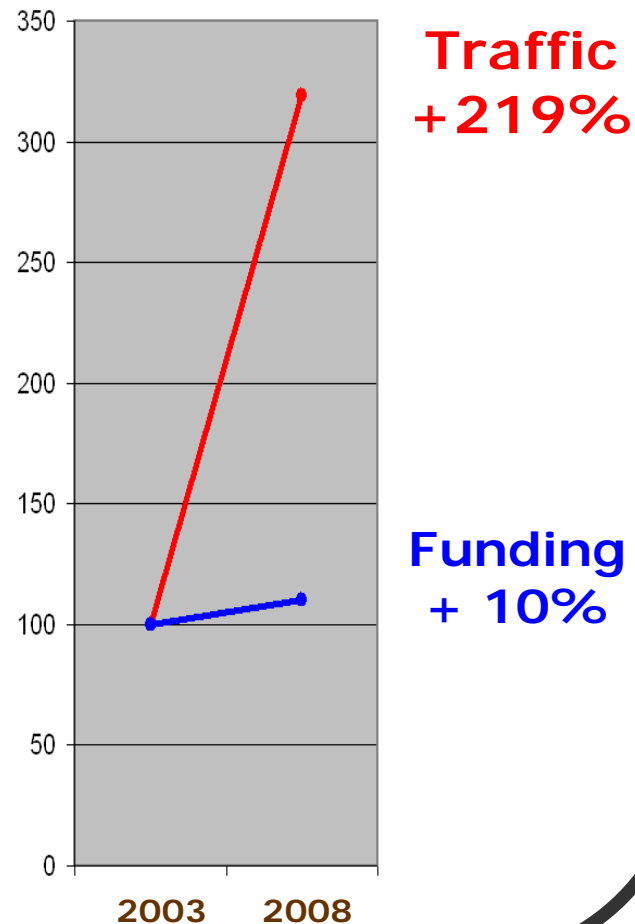
- Huge capacity increase
- Exponential Traffic growth
- Running costs remain stable





# Increased Value of NRENs 2003 - 2008

	Total traffic, 2003 (TB)	Total traffic, 2008 (TB)	Total budgets, 2003 (MEUR)	Total budgets, 2008 (MEUR)	Traffic increase, 2003 - 2008	Budget increase, 2003 - 2008
EU/EFTA Countries	40,165	168,372	311	341	319%	10%
Other Countries	3,101	13,411	28	38	332%	34%
All Countries	43,266	181,782	339	379	320%	12%

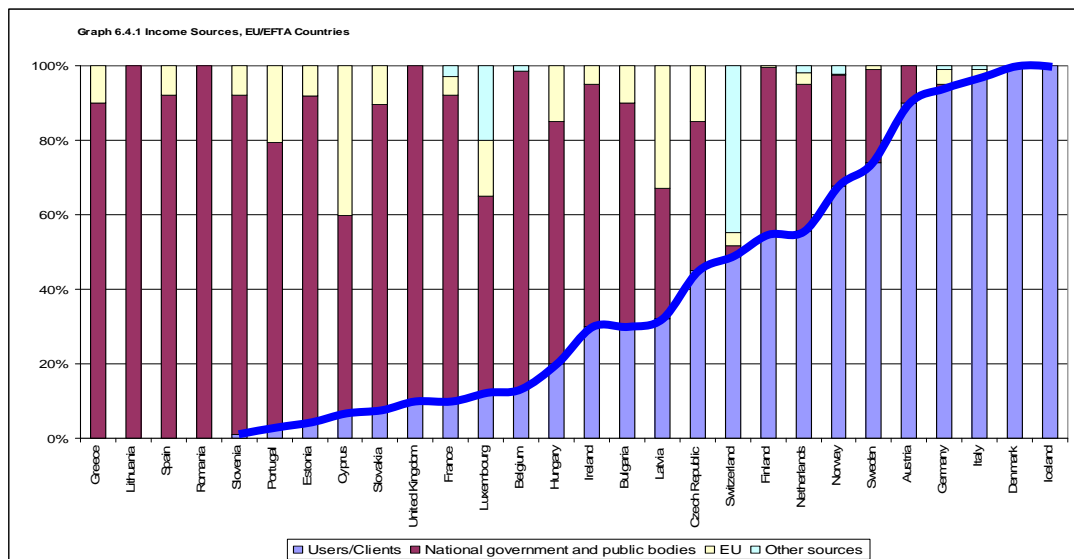




# A spectrum of funding models

**Non-User/Client  
Funding**

**LONG  
TERM  
horizon**



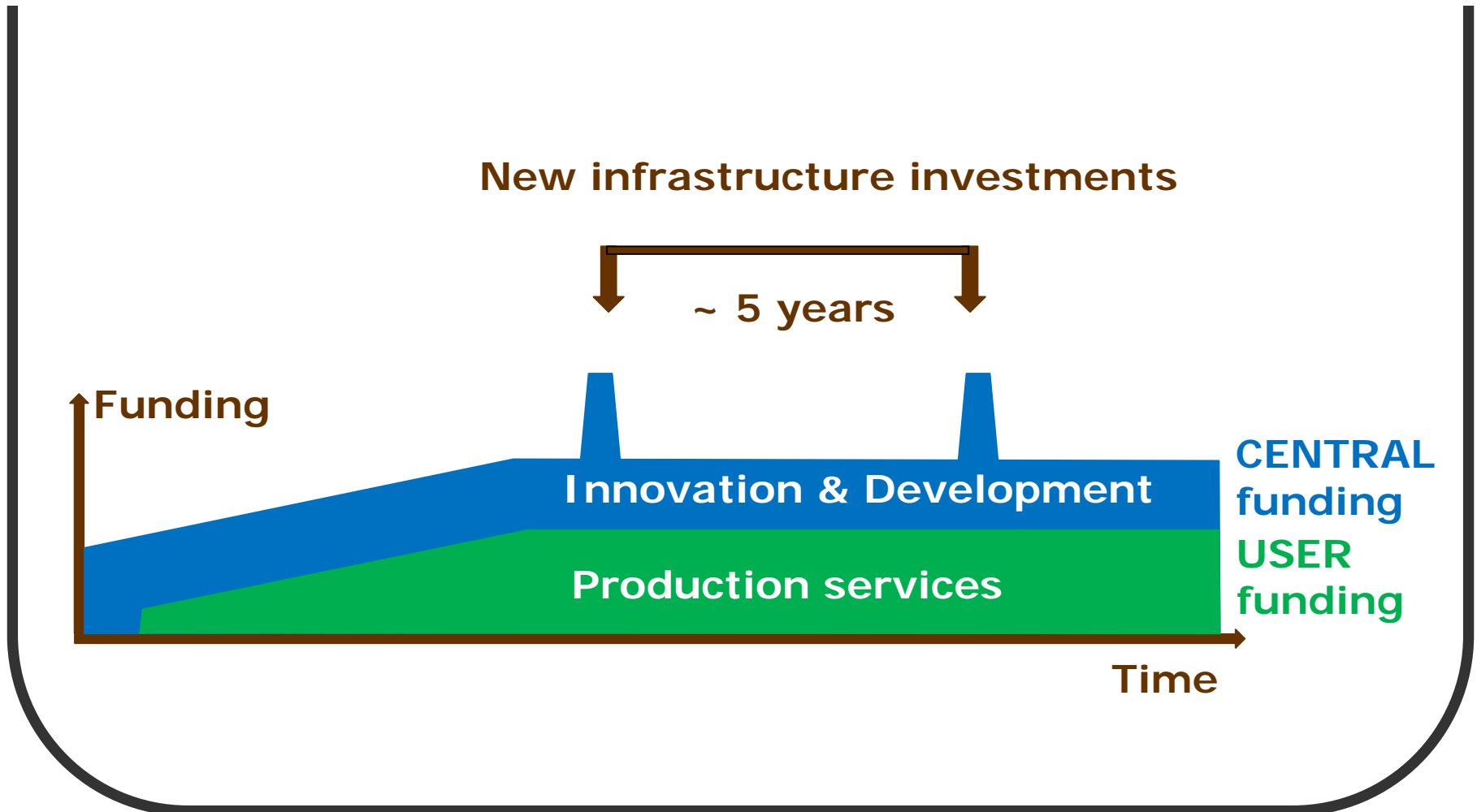
**User/Client  
Funding**

**SHORT TERM  
horizon**





## A Sustainable Funding Model





## Value of Government Investment

- **SERENATE (2003)**
- **EARNEST (2008)**



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- **REANNZ Economic Value Assessment (2008)**  
\$1 crown contribution provides a minimum of \$4 of ongoing economic benefits the market won't deliver





## SUMMARY

- **NRENs occupy a special position outside of the commercial Internet market.**
- **They operate as not-for-profit organisations serving a closed user group consequently there is a case for them to be designated as non-public networks.**
- **NRENs are a PUBLIC GOOD**
- **National governments should regard their NRENs as a national asset to be fostered and supported by central contributions to a hybrid funding model.**

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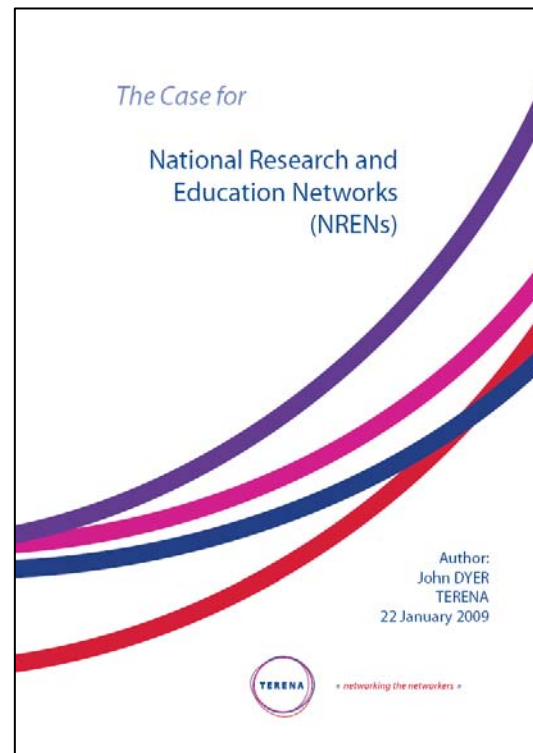
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**The complete story:**

**The Case for NRENs**  
**January 2009**

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<http://www.terena.org/publications/>



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