



## 2012 The year of regional NREN connectivity?

ME SIG

Amman, Jordan, december 13<sup>th</sup> 2011

Yves Poppe

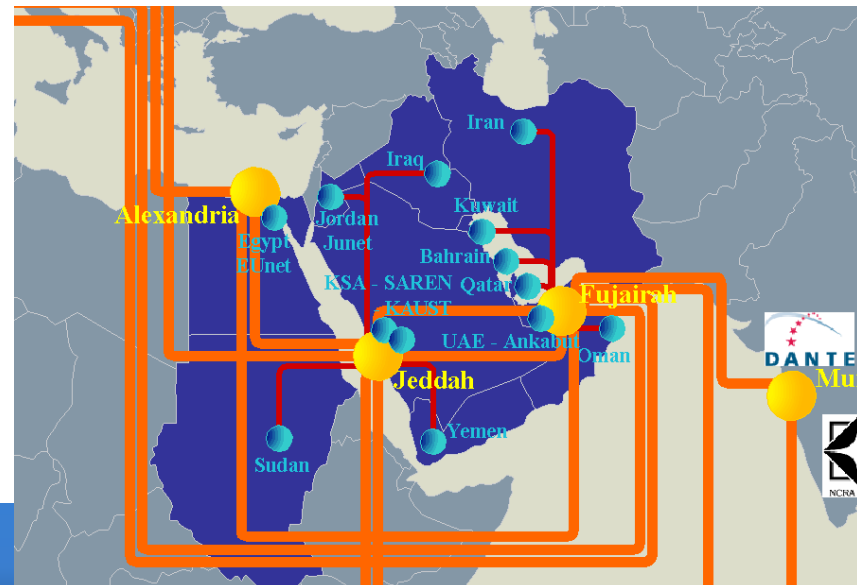
Director Bus. Dev. & Strategy

- Cable situation this december 2011
  - **Crossing of Egypt causes major delays for several cable systems (i.e. TGN-EA, EIG and Orascom MENA)**
  - **Seamewe4 and IMEWE are the major conduits to Europe today and until the new cable systems are operational**
  - **Established cables such as Seamewe4, Flag and Falcon are being upgraded with 40gbps technology.**
  - **TGN Gulf is scheduled to be operational by 31st December 2011 (Oman – India already operational)**
  - **TGN-EA eastward is already operational – Westward towards Europe expected this Month December 2011**
  - **Gulf Bridge Int'l Gulf ring scheduled for completion soon.**
- What we are likely to see (would like to see?) in 2012
  - **The Egypt crossings will be completed and the Arab peninsula will see a major gusher of new subsea capacity to Europe and beyond**
  - **Capacity prices should start to fall significantly allowing the major regional NREN's to join the lambda switching ranks of GLIF and GLORIAD.**
  - **With the activation of affordable new cable system capacities (such as TGN-Gulf and TGN-EA), Gulf NREN's will connect with each other.**

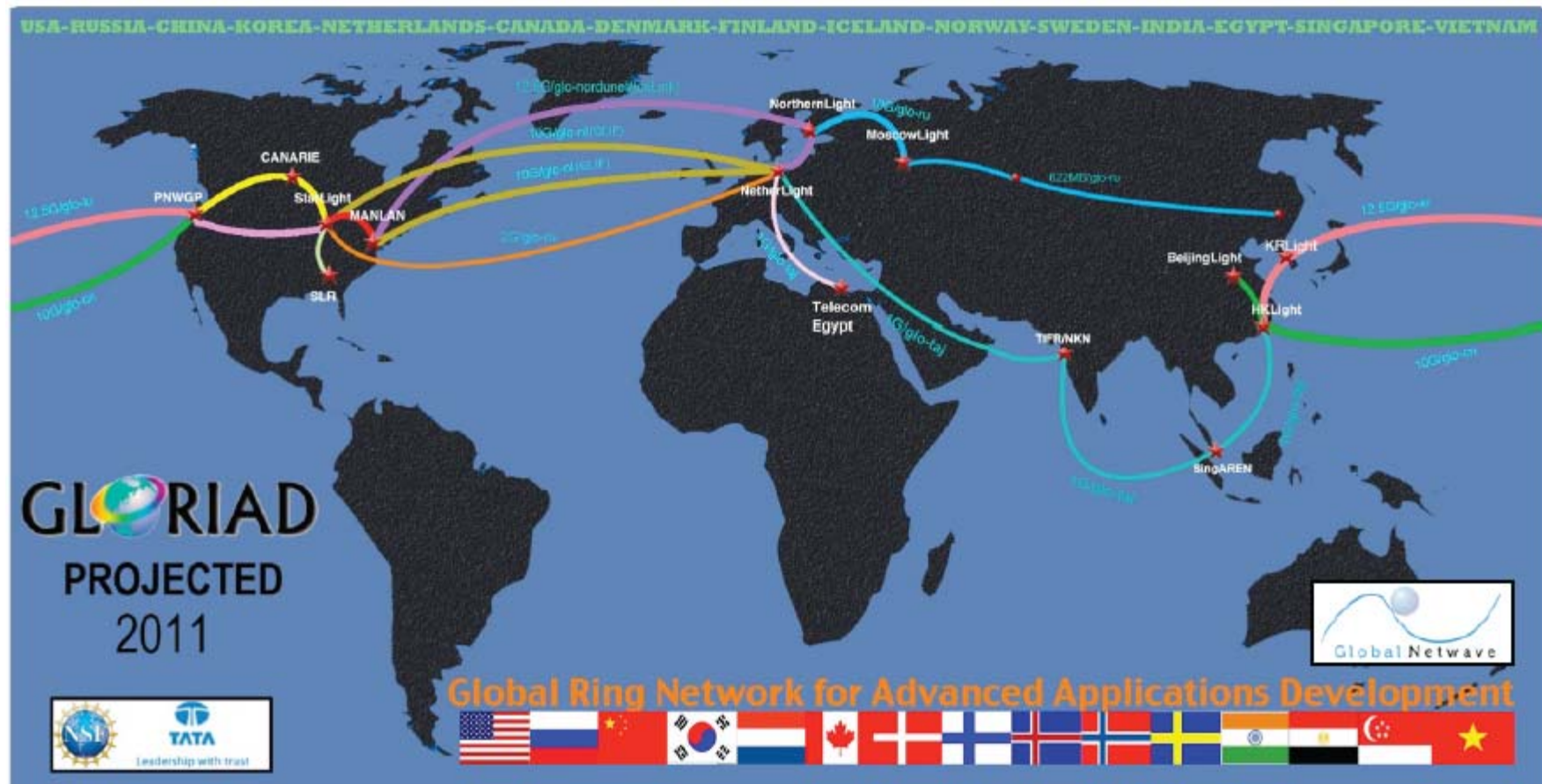


- Eumedconnect2 allows for Algeria, Egypt, Jordan, Morocco, Palestine, Syria and Tunisia R&E to connect to the EU Dante R&E network.

- Combining ASREN with its early Mediterranean focus and Al Khawarizmi, initially more centered on the Arab Peninsula, will, God willing, accelerate the creation of an Arab World Global Research and Education Network.



## Taj-Gloriad lambda R&E network



- Partners: SURFnet, NORDUnet, CSTnet (China), e-ARENA (Russia), KISTI (Korea), CANARIE (Canada), SingAREN, ENSTInet (Egypt), Tata Inst / Fund Rsrch/Bangalore Science Community, NLR/Internet2/NLR/NASA/FedNets, CERN/LHC
- Sponsors: US NSF (\$18.5M 1998-2015), Tata (\$6M), USAID (\$7.5M 2011-2015) all Intl partners (~\$220M 1998-2015)
- History: 1994 Friends and Partners; 1996 Civic Networking; 1997 US-Russia MIRnet; 2004 GLORIAD; 2009 GLORIAD/Taj; 2011 GLORIAD/Africa

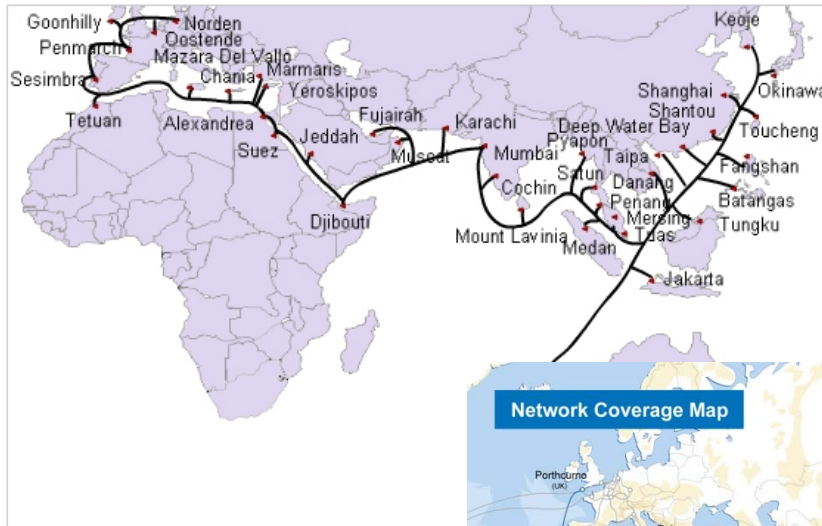


# TATA COMMUNICATIONS

## SMW3, SMW4, FLAG



SMW4 upgrade to with 40gbps  
and Egypt crossing with  
100gbps per wave bringing  
design capacity to 2.4Tbps  
RFS?



SMW3  
RFS: Sept 1999  
Lit 505gbps

SMW4  
RFS Dec 2005  
lit: 1580Gbps  
Design: 1700Gbps

Oct 2011: Reliance  
announces upgrade to  
500gbps

FLAG  
RFS: Nov 1997

Lit: 85gbps  
design : 320gbps

RFS: Dec 2010  
lit: 520gbps  
design: 3840gbps

Owners:  
Bharti Airtel, Etisalat, France Telecom,  
Ogero, Pakistan telecom, Saudi  
Telecom, Tata Communications,  
Telecom Italia Sparkle , Telecom Egypt



Egypt crossing causing delays



RFS: February 2011

Lit: 660gbps; design: 3840Gbps

Cost: 700' \$

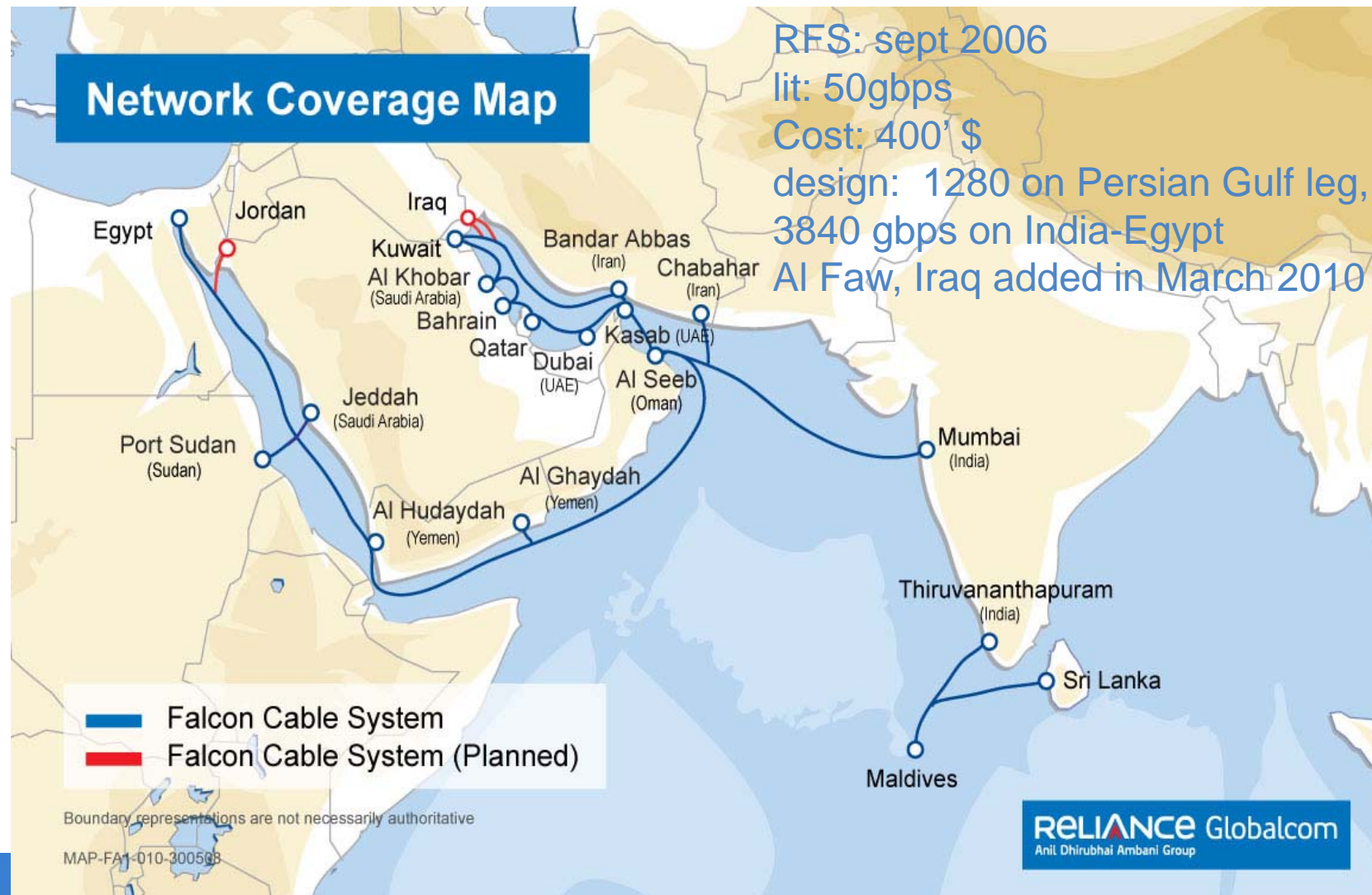
Owners: AT&T, Bharti Airtel, BSNL, BT, C&W, Djibouti Telecom, Du, Gibtelecom, Libyan PTT, MTN, Verizon Business, Omantel, Portugal Telecom, Saudi Telecom, Telkom South Africa, Telecom Egypt, Telecom Mauritius, Verizon Business

## Falcon

Oct 2011: Reliance announces upgrade to 500bps

### Network Coverage Map

RFS: sept 2006  
lit: 50gbps  
Cost: 400' \$  
design: 1280 on Persian Gulf leg,  
3840 gbps on India-Egypt  
Al Faw, Iraq added in March 2010



**RELIANCE** Globalcom  
Anil Dhirubhai Ambani Group



## Orascom MENA

'currently under construction'  
Egypt crossing also causes  
delays.



Map:  
Telegeography

Delays in upgrade  
Q1 2012?





RCN

Some delays  
Q1 2012 RFS?



## Other Cable Connectivity in the Gulf

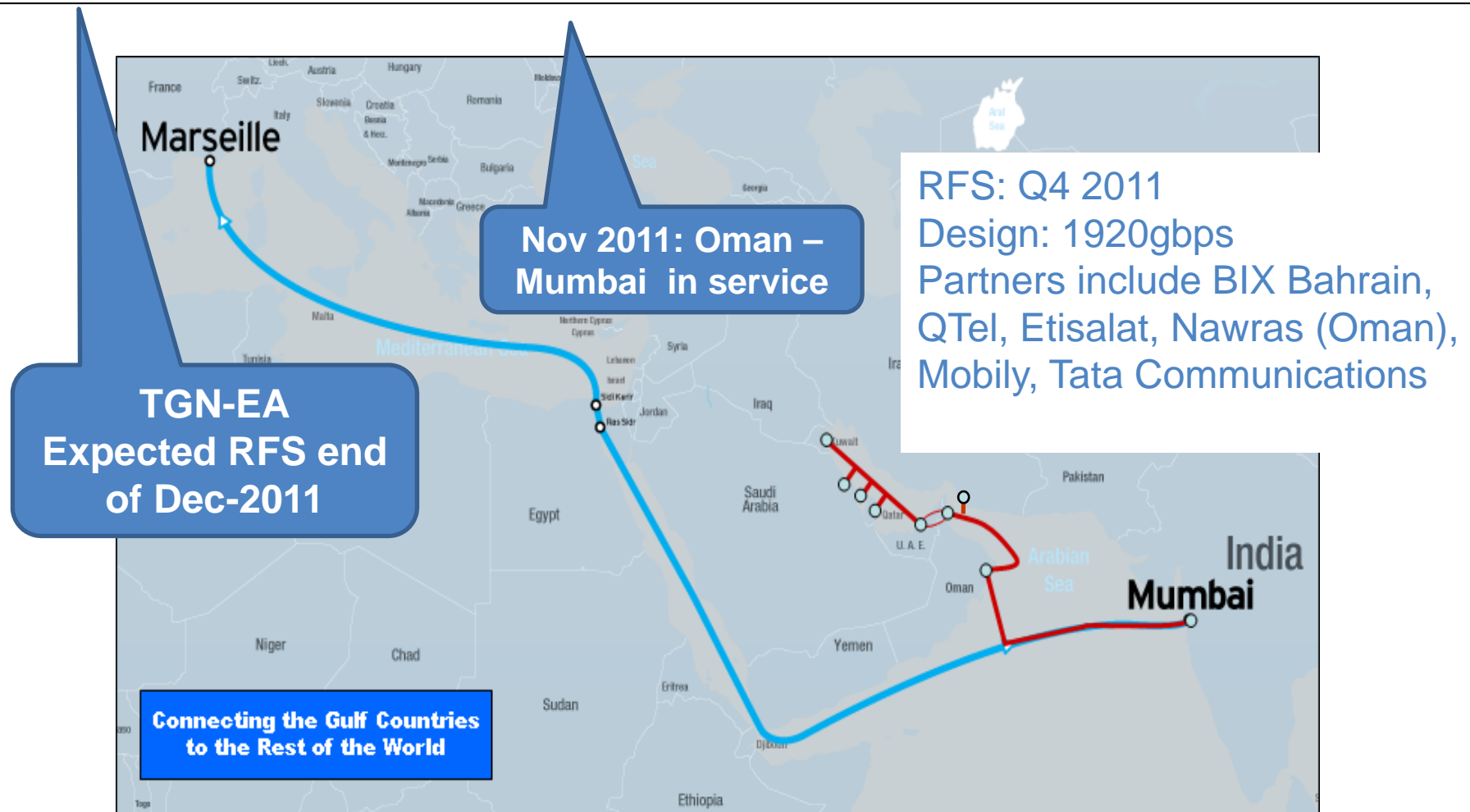


**TW-1 Pakistan-UAE- Oman**  
RFS: June 2006 lit: 20gbps  
design: 1280gbps





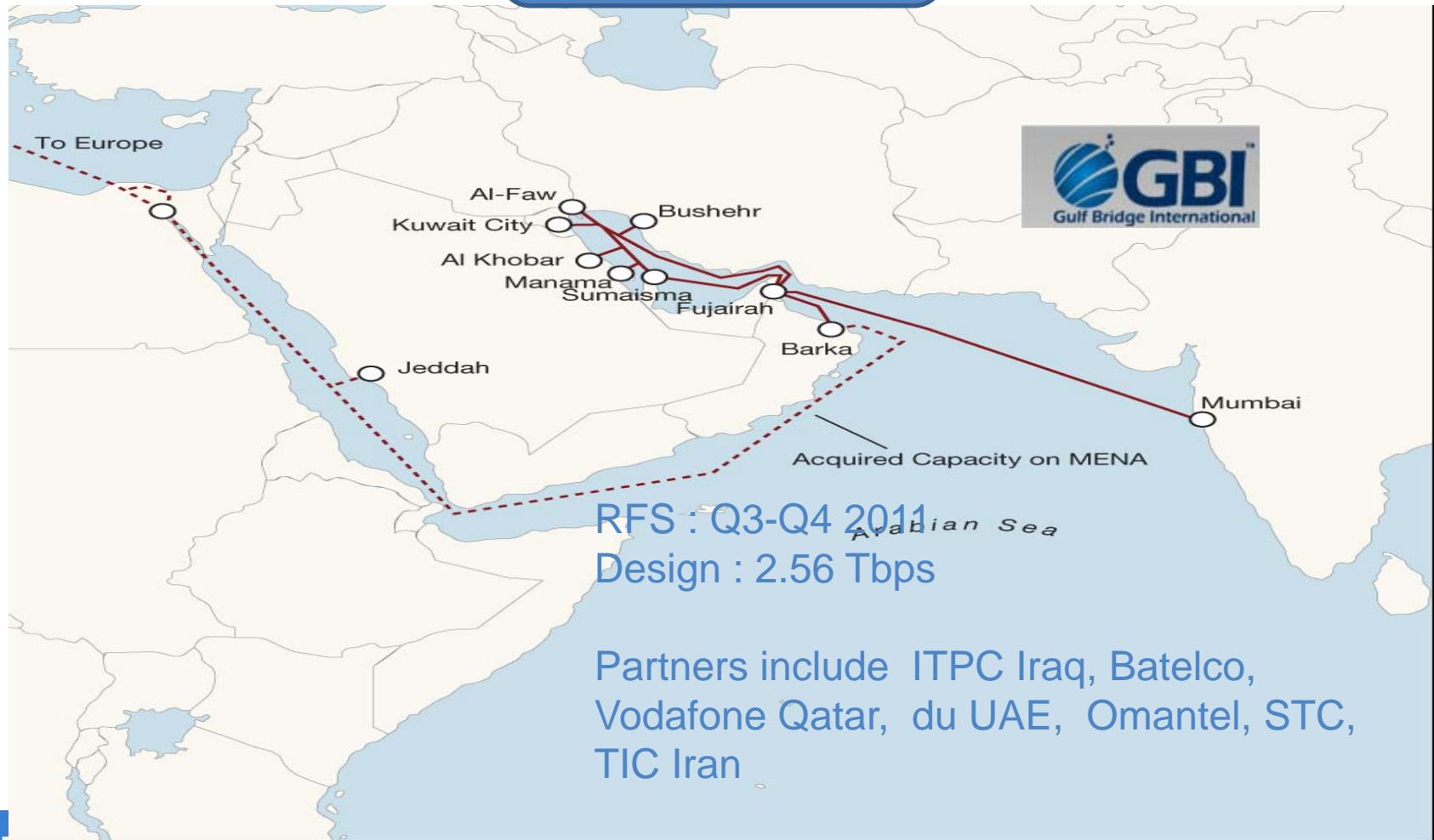
## TGN Eurasia and Gulf extension



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GBI

Imminent RFS date  
expected



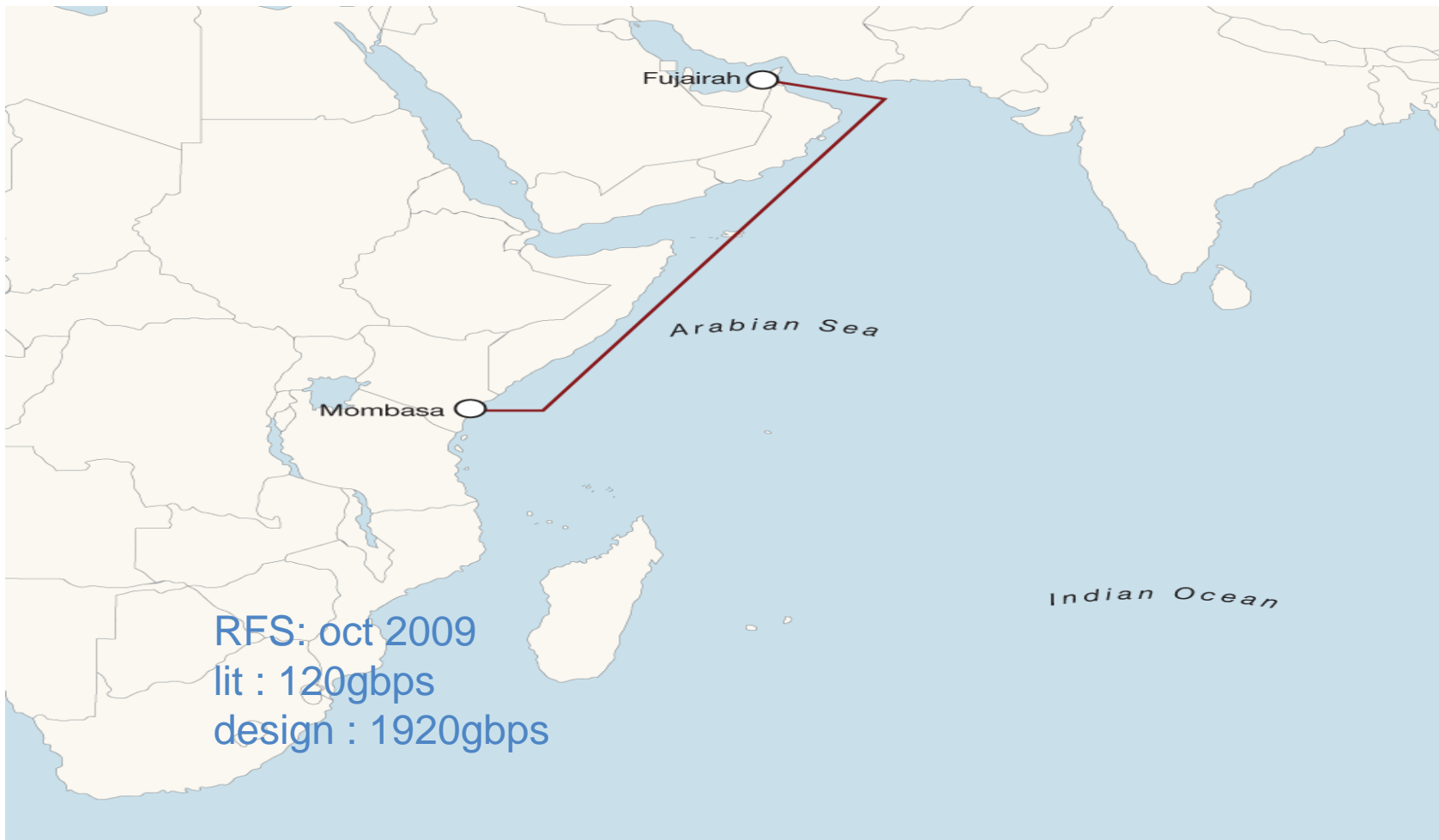
## EPEG (Europe Persia Express Gateway)

- MoU signed in March 2011
- Frankfurt- Russia – Azerbaijan – Iran - Oman
- Current partners: Omantel, TIC Iran, Rostelecom, Delta (Azerbaijan), C&W UK
- Initial capacity: 540gbps, design capacity 3.2Tbps
- Cost: US\$200 million
- Planned RFS : may 2012



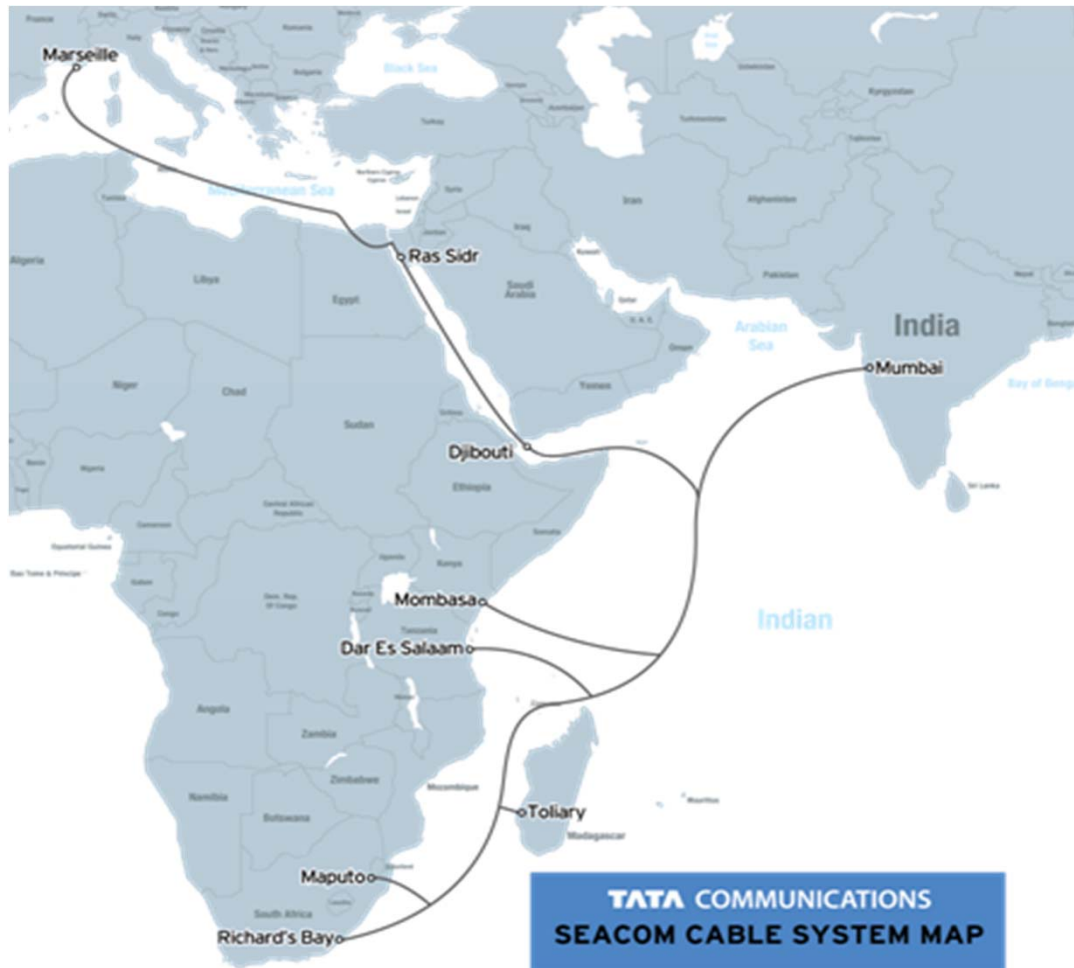
Seems rather optimistic

## TEAMS: Kenya-UAE





## TGN-EA and Seacom Cable System



RFS: July 2009  
lit: 160gbps (Tata)  
design: 1280gbps

Key transmission link for  
Worldcup Soccer 2010

Qatar will need even more  
capacity for the 2022  
Worldcup





Thank You