

NETWORK INFRASTRUCTURE SHARING

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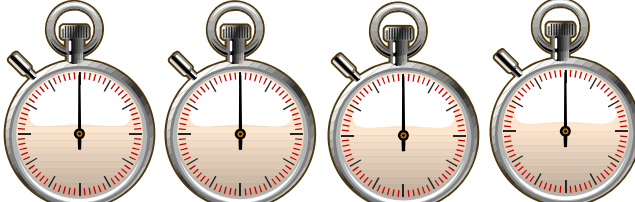
DRIVERS FOR NETWORK SHARING



SAVE MONEY ON BUILDING AND OPERATING THE NETWORK



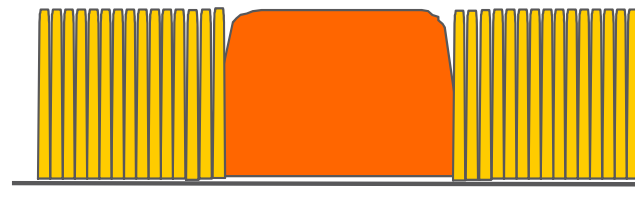
QUICK START OF NEW SERVICES
SPEED UP ROLL-OUT OF SERVICE AND COVERAGE



ADDRESS MORE CUSTOMERS
BY PROVIDING MORE COST-EFFECTIVE COVERAGE



SPECTRUM SHARING FOR
REDUCED SPECTRUM COST OR
SPECTRUM AVAILABILITY

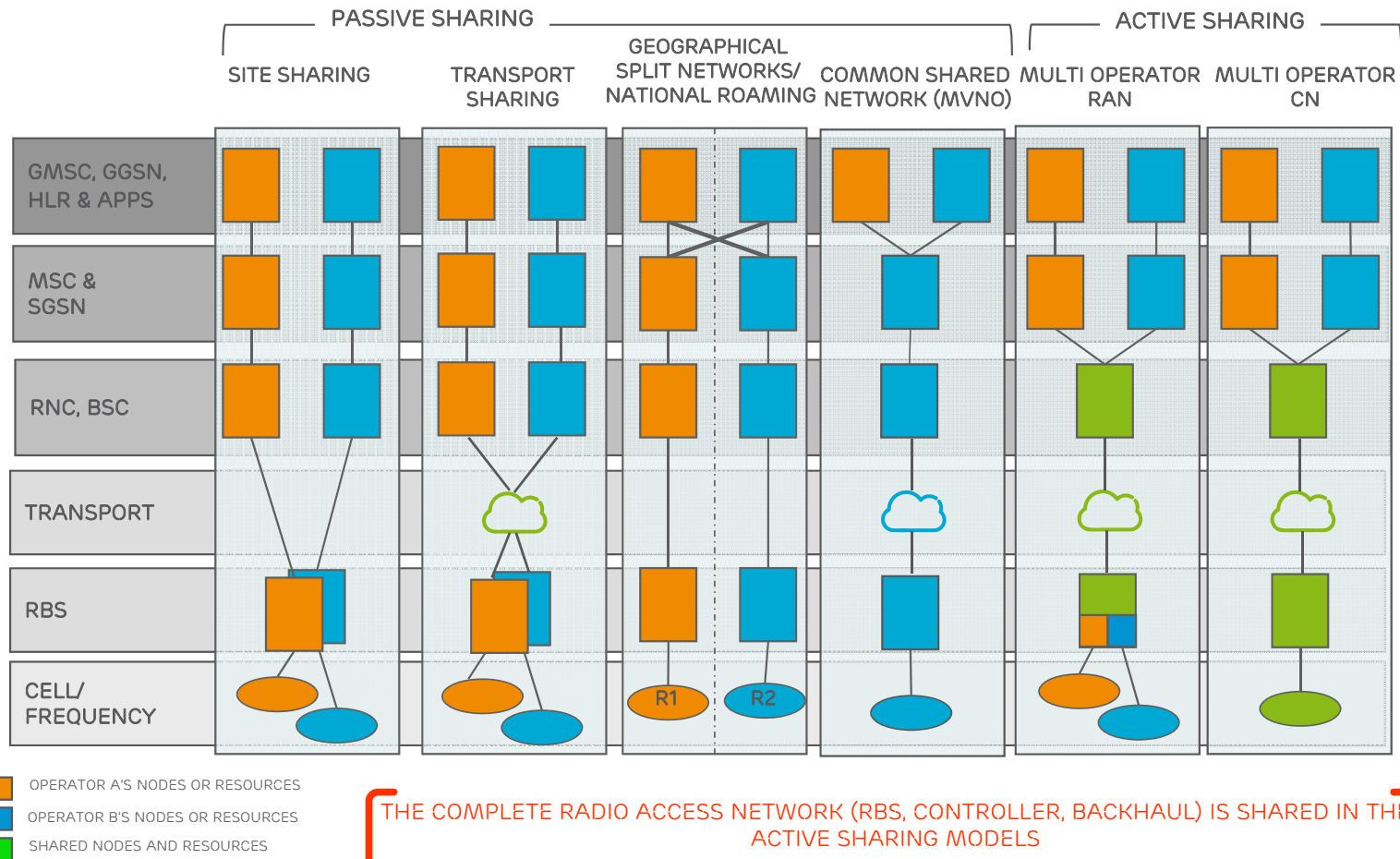


REGULATION AREAS

- › TO ENCOURAGE COMPETITION AT THE SERVICE LEVEL
- › TO ENSURE THE DEPLOYMENT OF NETWORK INFRASTRUCTURE IN PREVIOUSLY UNDERSERVED, COMMERCIALY UNATTRACTIVE AREAS
- › MINIMIZE THE IMPACT OF CELLULAR INFRASTRUCTURE ON THE ENVIRONMENT AND PUBLIC SAFETY



RAN SHARING MODELS

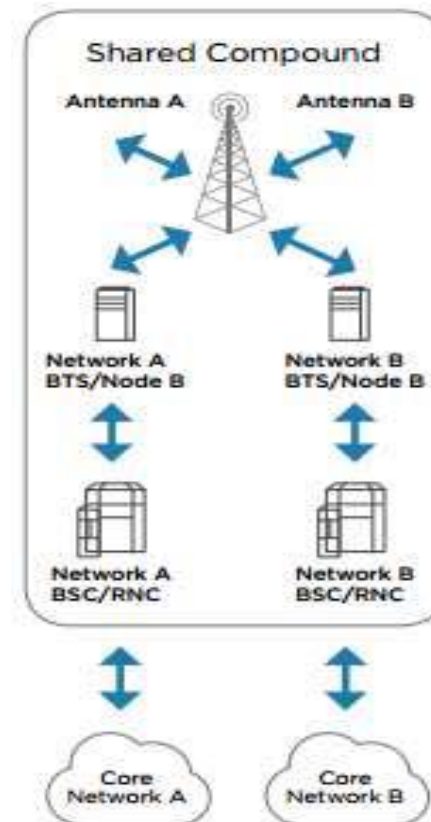


PASSIVE INFRASTRUCTURE SHARING



PASSIVE NETWORK SHARING ELEMENTS

- MAST
- SHELTER
- DIESEL ELECTRIC GENERATOR
- BATTERY
- FEEDERS
- TRANSPORT
- BACKHAUL: CABLES, FIBER, MICROWAVE; LEASED LINES



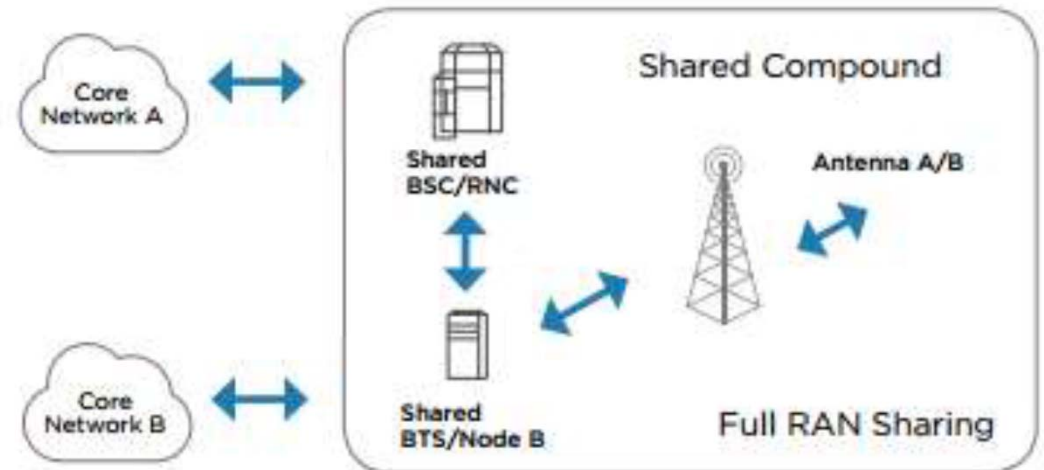
CURRENTLY THE VAST MAJORITY OF REAL CASES IS ON PASSIVE SHARING

ACTIVE INFRASTRUCTURE SHARING



ACTIVE NETWORK SHARING ELEMENTS

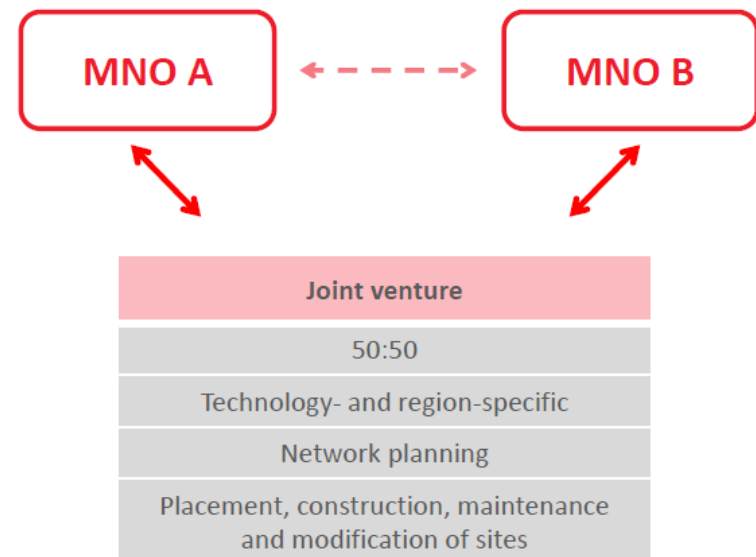
- RADIO ACCESS NETWORK
- TRANSPORT INFRASTRUCTURE
- SPECTRUM
- NATIONAL ROAMING
- MVNOS



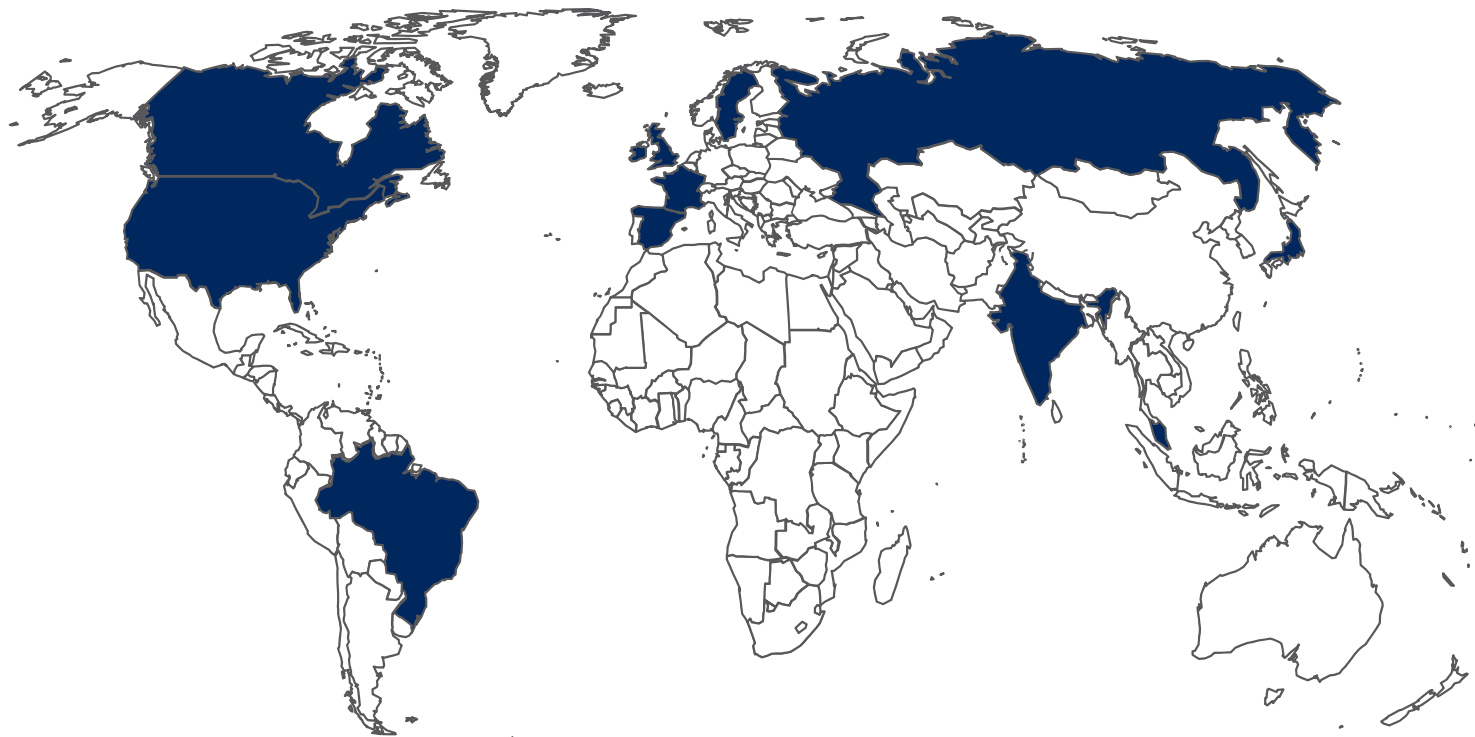
INFRASTRUCTURE SHARING JOINT VENTURES



- PARTNERS OF JV HAVE EQUAL PARTS (50:50)
- JV RESPONSIBLE FOR OPERATING AND MAINTAINING THE SHARED ASSETS
- SHARING PARTNERS MANAGE MARKETING AND COMMERCIAL STRATEGIES SEPARATELY.
- JOINT VENTURES ARE TYPICALLY TECHNOLOGY-SPECIFIC



ERICSSON SHARED RAN GLOBAL EXPERIENCE



10+ LIVE NETWORKS WORLDWIDE

VALUE OF INFRASTRUCTURE SHARING



Value delivered	Rural (low traffic)	Urban (high traffic)	Rollout phase	Mature technology
Capex efficiencies				
Opex savings				
Improved coverage				

High
 Medium-high
 Medium
 Low

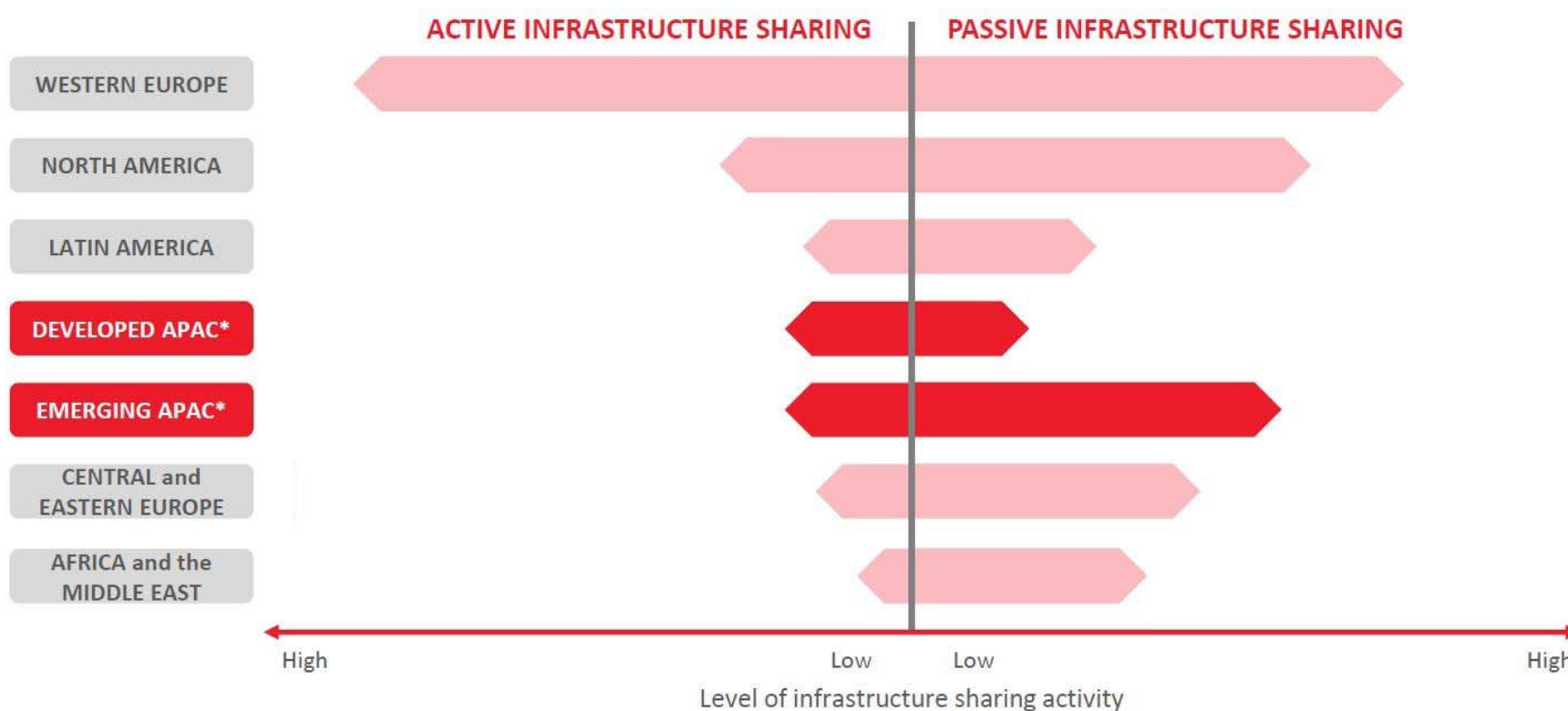
VALUE DELIVERED BY INFRASTRUCTURE SHARING BASED ON GEOGRAPHIC SETTING AND STAGE OF NETWORK DEPLOYMENT

OBSTACLES FOR INFRASTRUCTURE SHARING



- DISAGREEMENT ON ASSET CONTRIBUTIONS OR ASSET TRANSFERS
- DISPARATE KEY PERFORMANCE INDICATORS (KPIs) AND SERVICE-LEVEL AGREEMENT (SLA) TARGETS
- SHARING PARTIES' ABILITY TO EXIT OR TERMINATE THE INFRASTRUCTURE SHARING AGREEMENT OR JOINT VENTURE (JV).

SHARING GLOBAL CONTEXT





GLOBAL REFERENCES

ERICSSON SHARED LTE RAN REFERENCE

- SOFTBANK NEEDED MORE LTE CAPACITY AND ACQUIRED OPERATOR EACCESS TO INCREASE NUMBER OF LTE BASE STATIONS WITH 50%.
- EACCESS MANAGES SHARED NETWORK
- REGULATOR DEMAND THAT BOTH SOFTBANK AND EACCESS CONTINUE TO OFFER SERVICES TO END-USERS.
- TYPE OF SHARING: SHARED SPECTRUM (MOCN)
- 10MHZ ON B3 1800 MHZ IS FULLY SHARED



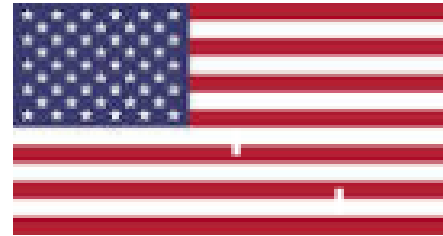
 SoftBank



ERICSSON SHARED LTE RAN REFERENCE

COMMERCIAL

- T-MOBILE ACQUIRED METRO-PCS.
- SHARED LTE RAN SOLUTION ENABLE METRO-PCS SUBSCRIBERS TO UTILIZE T-MOBILE NETWORK
- ENHANCED SPECTRUM POSITION
- TYPE OF SHARING: SHARED SPECTRUM (MOCN)
- COMBINED SPECTRUM RESOURCES ENABLING AT LEAST 20 MHZ LTE IN MAJOR METRO AREAS



T-Mobile

metroPCS.
Wireless for All.



ERICSSON SHARED LTE RAN REFERENCE

- GSM+WCDMA+LTE ACTIVE RAN SHARE
- LTE SERVICE LAUNCHED IN AUGUST 2013
- FAST ROLL OUT OF LTE SERVICE ACROSS U.K.
- IN EASTERN UK O2 OWNS AND MANAGE THE NETWORK AND VODAFONE IN THE WEST
- 18500 SITES
- THE REGULATOR IN THE UK (OFCOM) DOES NOT ALLOW OPERATORS SHARING SPECTRUM
- LTE 800MHZ.
- EACH OPERATOR HAS 10MHZ ADJACENT SPECTRUM



SPAIN RAN SHARING



› TWO SHARING NETWORK OPERATOR SCENARIO

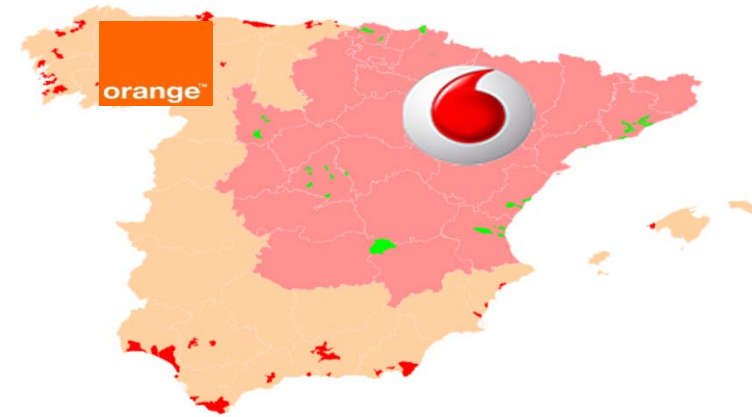


VILLAGES WITH LESS THAN 25000 INHABITANTS
BOTH 2G AND 3G

› THREE SHARING NETWORK OPERATOR SCENARIO



HIGH SPEED RAILWAY LINES
BOTH 2G AND 3G

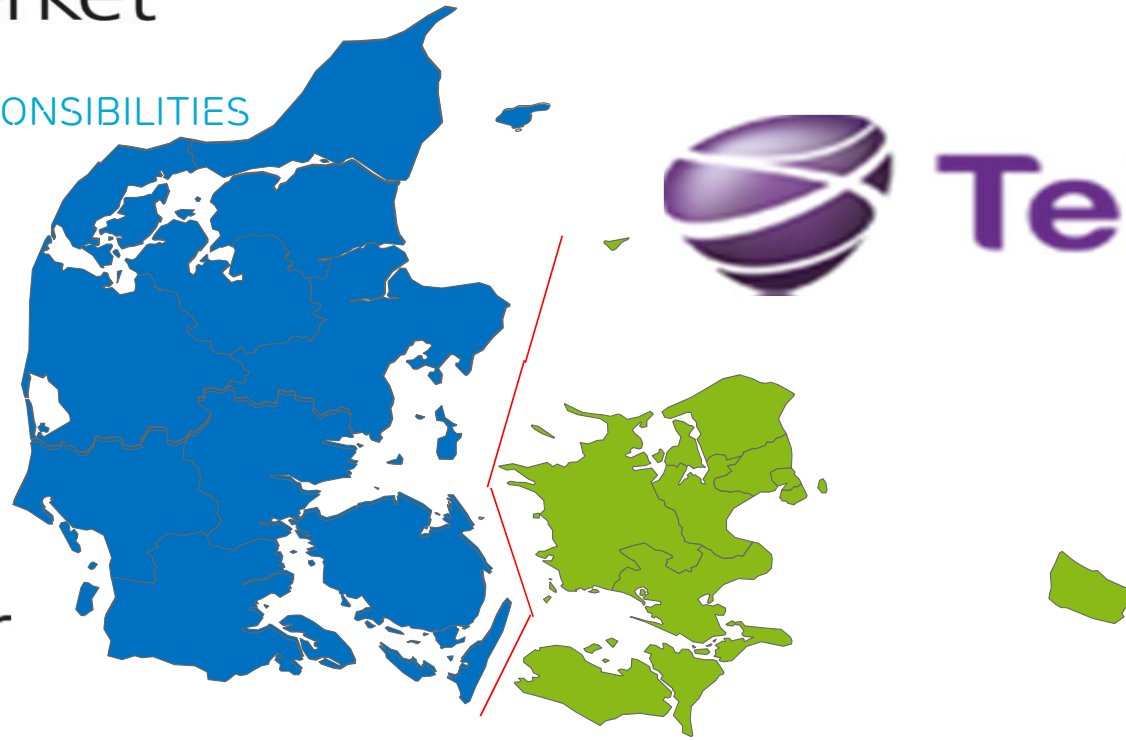


DENMARK RAN SHARING

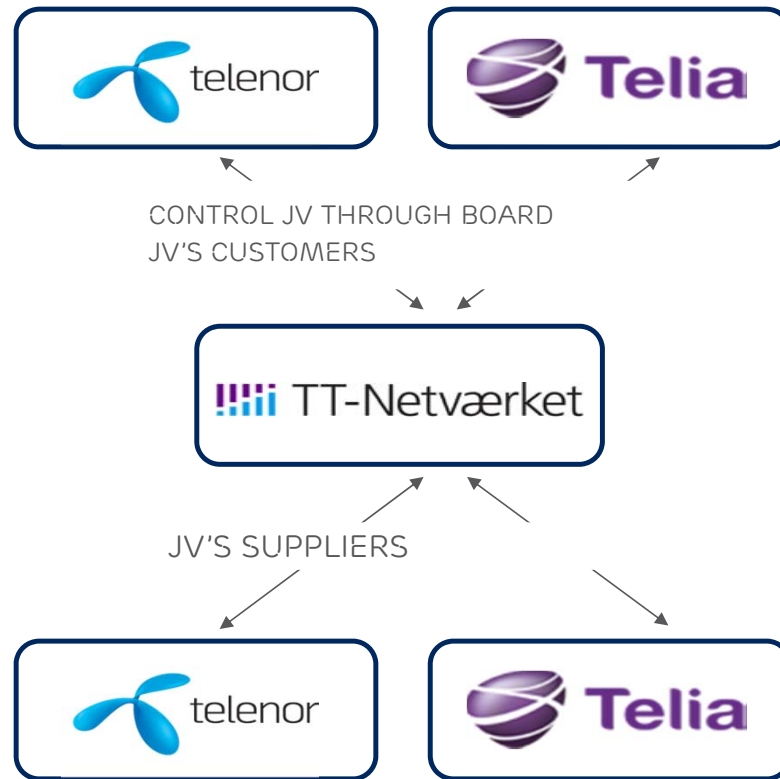


TT-Netværket

- › JOINT VENTURE BETWEEN
- › GEOGRAPHIC SPLIT OF RESPONSIBILITIES
- › BUILD AND OPERATE
- › MOCN 2G/3G/4G



ORGANISATION MODEL



UK RAN SHARING

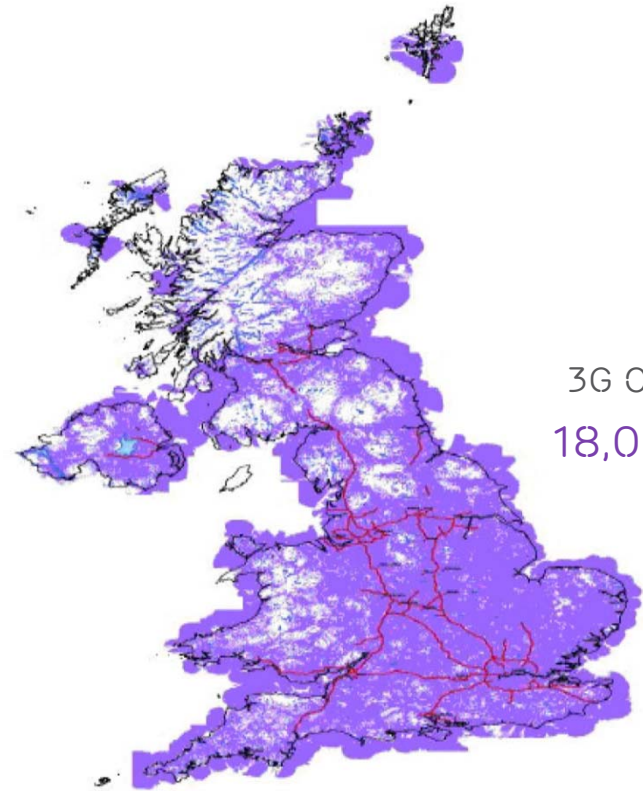


MBNL

JOINT VENTURE BETWEEN



MORAN ON 3G ONLY



3G COVERAGE
18,000 SITES



ERICSSON