

LKAB EXPERIENCES STEG <-> CATO

On-time seminar, 2014-10-16

Dick Carlsson, LKAB

Thomas Nordmark, LTU



Narvik
Harbour



Kiruna
Under ground
mining and
processing



Malmbanan
Railway Narvik -
Luleå



Svappavaara
Open pit mining
and processing



Malmberget
Under ground
mining and
processing

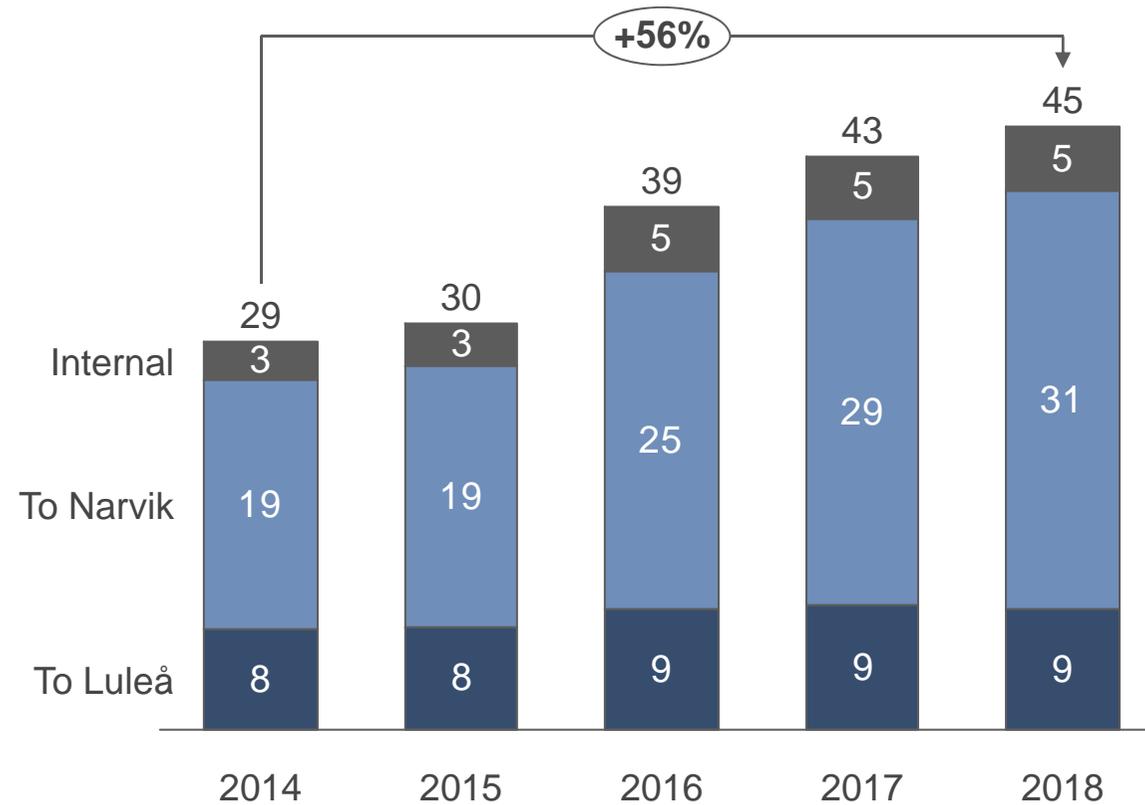


Luleå
Harbour and
Head Office

IRON ORE OPERATIONS



TRANSPORT VOLUME, MTON (ON RAIL)





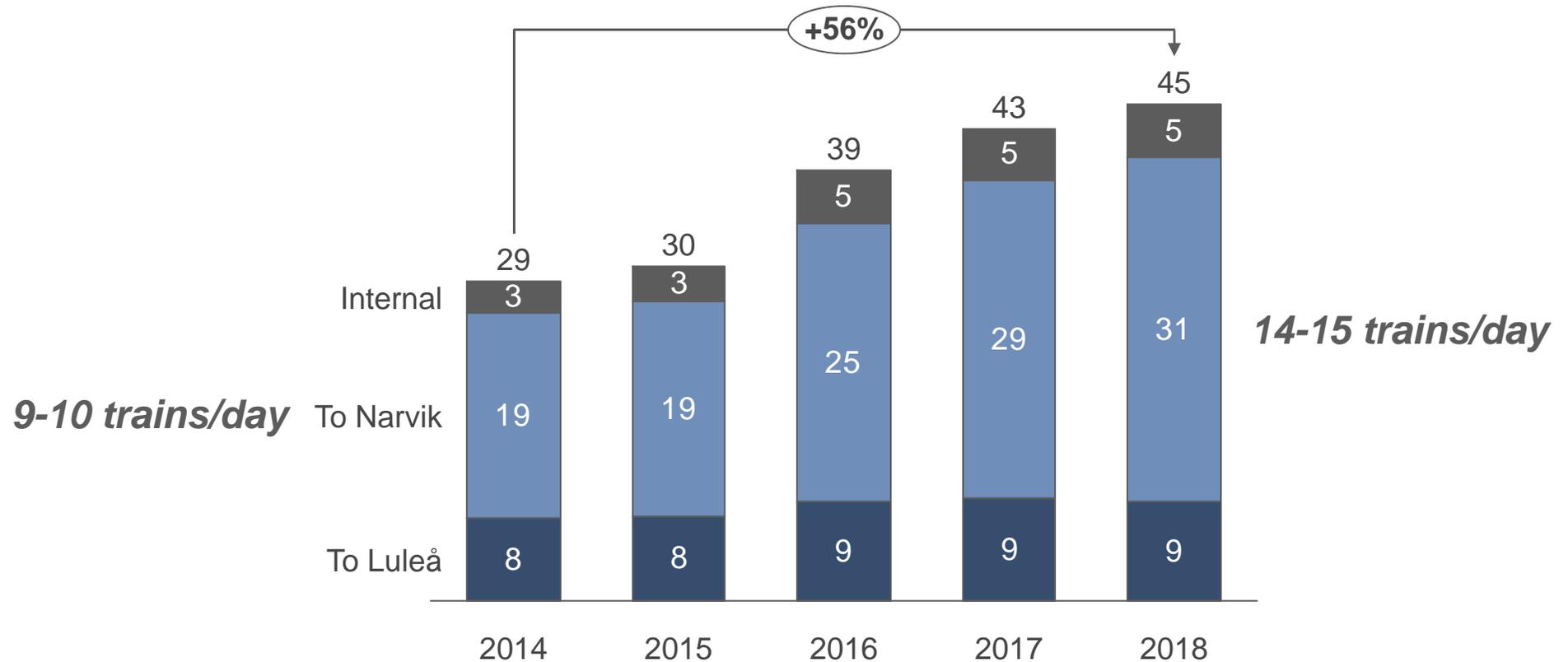
ROLLING STOCK



Train set: 68 wagons, total payload 6 500 tonnes
Stock: 1 100 wagons, 17 locomotives



TRANSPORT VOLUME, MTON (ON RAIL)





INCREASED TRANSPORT CAPACITY - OPTIONS

- Improved infrastructure
 - Sidings (mötesplatser)
 - Double track

Expensive!
- Increased number of rolling stock

Expensive!
- Improved planning and execution of trains
 - Steg <-> Cato

Hopefully less expensive...



STEG <-> CATO ON LKAB

- Expectations
 - Lower energy consumption: 15-20%
 - Increased robustness/punctuality of train operations
- Fully implemented: 2012-07-01
- All 17 IORE-locomotives equipped
- All drivers educated

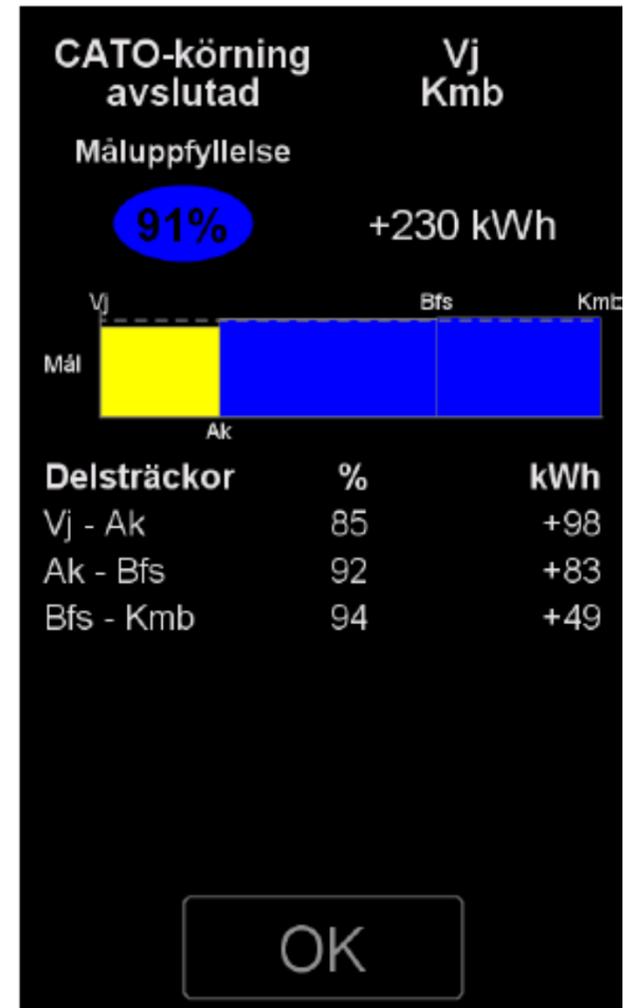
EXPERIENCES

- Results

Energy consumption went from 66 GWh to 54 GWh in 2013 - reduction of 18 % !

Punctuality increased from 72,7 to 75,7 in 2013

Not all due to CATO but yes it has contributed!





EXPERIENCE & CHALLENGES

- More support – development needed for dispatchers (Ftkl)
- More interactions between drivers and dispatchers
- Management focus from operator and TRV
- Cooperation to further develop the system – now two isolated systems.



NEXT STEP

- Include Norway – Ofotban
- Use the experiences in the development of NTL
- Develop better decision support tools for train despatcher