# Eni – AS4 implementation

Brussels – May 16, 2017

Introduction

- *In 2015, the European Union enacted regulation 703 which made it compulsory for TSOs to have an AS4 channel available for exchanging Edigas v5 messages with their counterparties.*

- *AS4 was not a new protocol for Eni as we took part in the POC conducted by ENTSOG in 2014; in that case we tested our channel with Snam and Gassco.*

- *After seeing regulation 703 and knowing Eni would have been asked to implement AS4 to communicate with our TSOs, we decided to comply with the TSOs's standard.*

- *Eni kept its attention on the evolution of the protocol attending workshops and studying documents, to regularly check the status of the guidelines being published.*
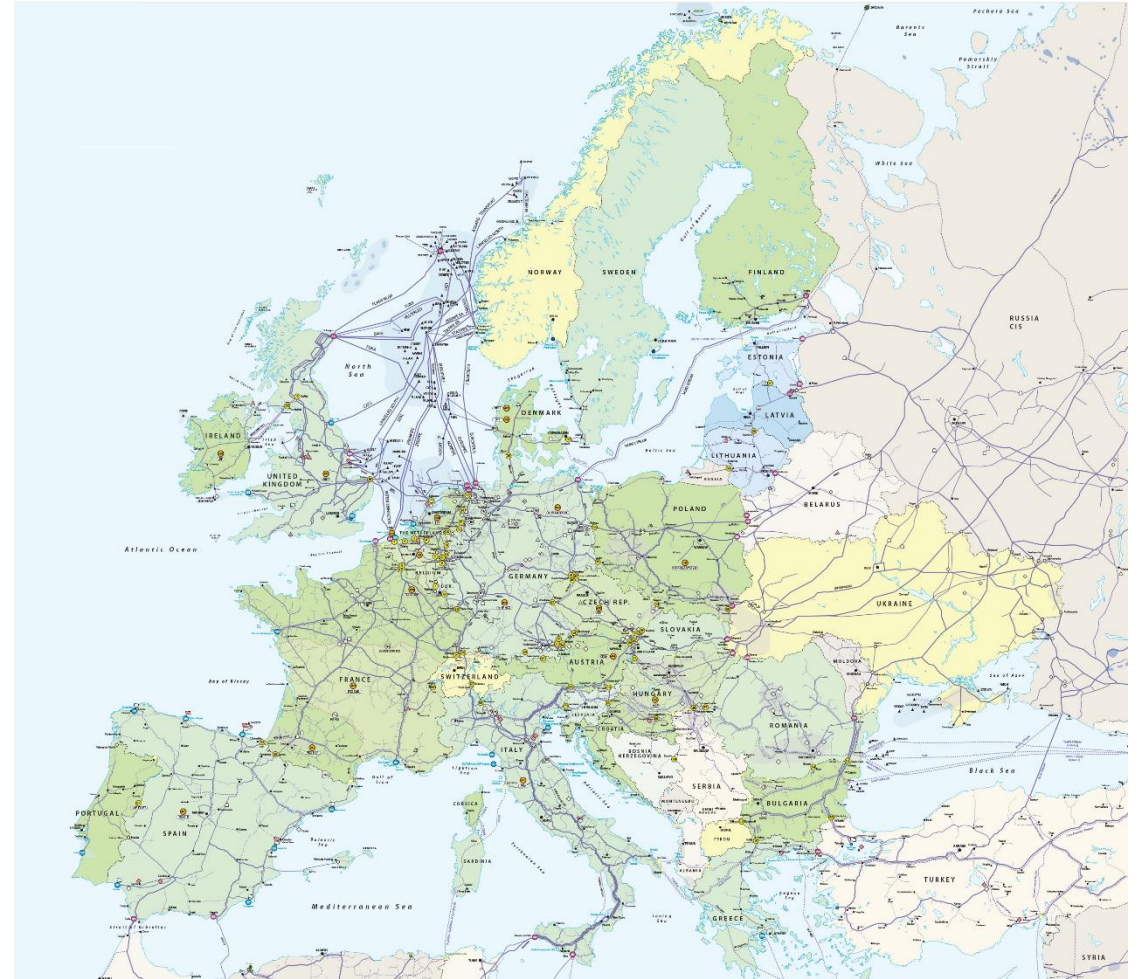
Who is Eni

- *Eni is an integrated energy company, active in 73 countries in the world with a staff more than 32.000 employees. Eni boasts a strong position in the oil&gas value chain, from the hydrocarbon exploration phase to the product marketing.*

- *Our strong presence in the gas market and in the liquefaction of natural gas, our skills in the activities, strengthened by world class skills in engineering and project management, allow us to catch opportunities in the market and to realize integrated projects.*

160 counterparties:

- 35 via AS2
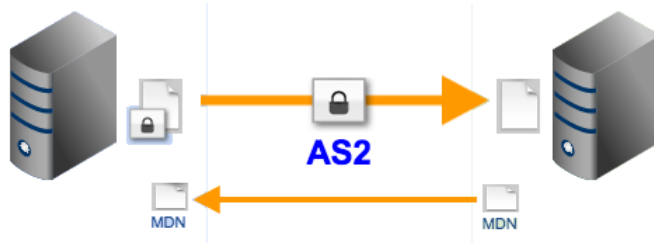
- 125 via email

18.000 messages per week:

- 13.000 incoming

- 5.000 outgoing
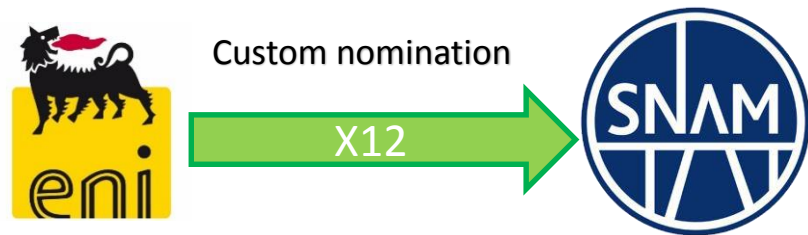
4

Why we started with Snam

- *Snam had a deadline that we had to meet for implementing AS4, so we proposed to Snam to make a project together.*

- *Eni and Snam have a long history of collaborating and doing projects together; phisical proximity and a language in common make collaboration easier.*

- *Therefore in July of 2016 we decided with Snam the approach to the project and what phases of tests we wanted to perform on both technical and functional sides.*
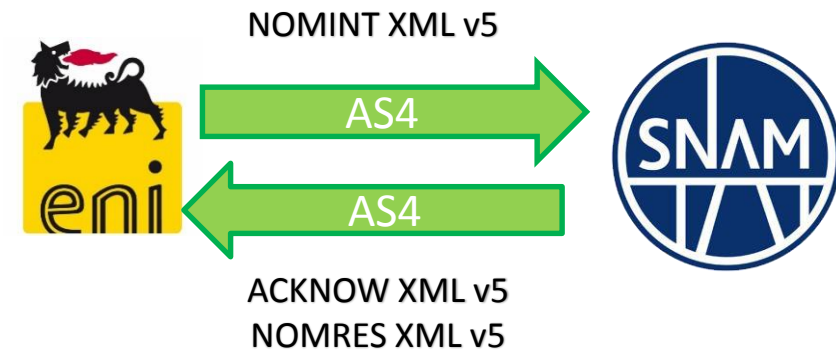
History
Language
Friendship
Proximity

Scope of the implementation

- *We are not only upgrading the channel, but the format of the messages also.*

As is

To be

Custom nomination

X12

NOMINT XML v5

AS4

AS4

ACKNOW XML v5
NOMRES XML v5

General implementation plan

	2016						2017								
	01/07	01/08	01/09	01/10	01/11	01/12	01/01	01/02	01/03	01/04	01/05	01/06	01/07	-----	01/10

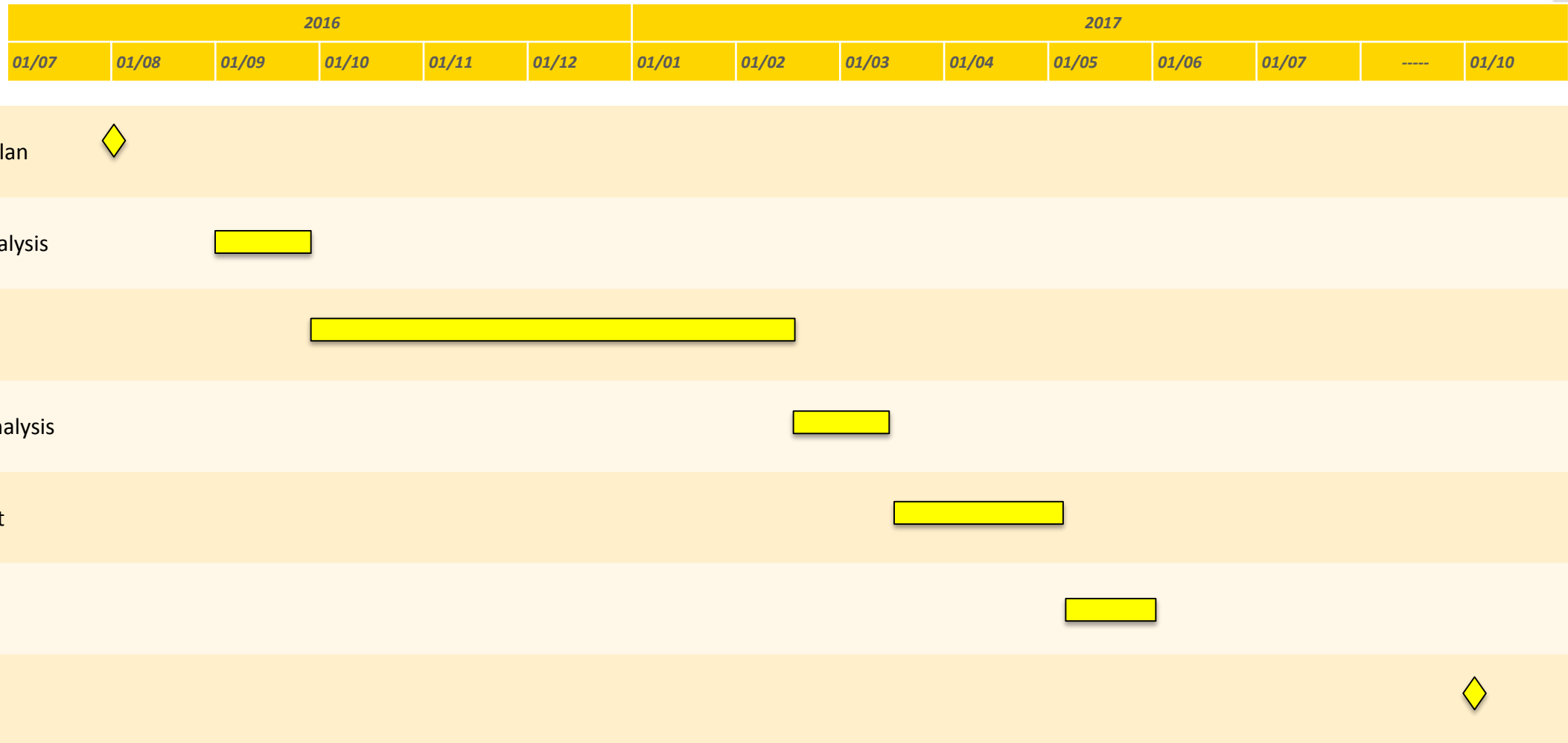|	
Definition of approach and plan	◇
National grid – functional analysis	▭
National grid - development	▭
Regional grids - functional analysis	▭
Regional grids - development	▭
Test	▭
Channel activation	◇

Lesson learned

- *Issues we encountered: for AS4 (as well as for AS2) we use Tibco Business Connect. During our implementation we found out our Tibco installation was not 100% suitable for AS4, we solved our problems as follows:*

  - *We did the TLS 1.2 encryption on the firewall, instead of on the Tibco layers*

  - *Upgrading only the AS4 ebXML plugin with a custom installation (the upgrade of the whole Tibco chain is being evaluated, but would have taken too long for this project).*

- *Starting the project long before the deadline allowed us not to rush to be ready for testing and releasing.*

Next steps

- *More TSOs asked us to switch other connection to AS4 in the future, they are:*
    - *Gasunie Deutschland*
    - *Gaz System*
    - *Open Grid Europe*
    - *Gascade*

    We'll switch to AS4 with them after completing our project with Snam

- *Upgrade of the whole Tibco chain in order to reach encryption level aes128gcm (at the moment we only have aes128).*

Considerations

- *Our business strongly wanted to take part in the POC for standardizing the communication; it turned out to be very useful and made it easier for us to have a working implementation.*

- *Starting the project in advance gave us time to investigate and solve the problems we encountered.*

- *In three years AS4 evolved from being the object of a POC to being a real working technology that will be used in a few more years by most European companies, therefore we encourage using the same in approach for future technologies.*

Questions & answers