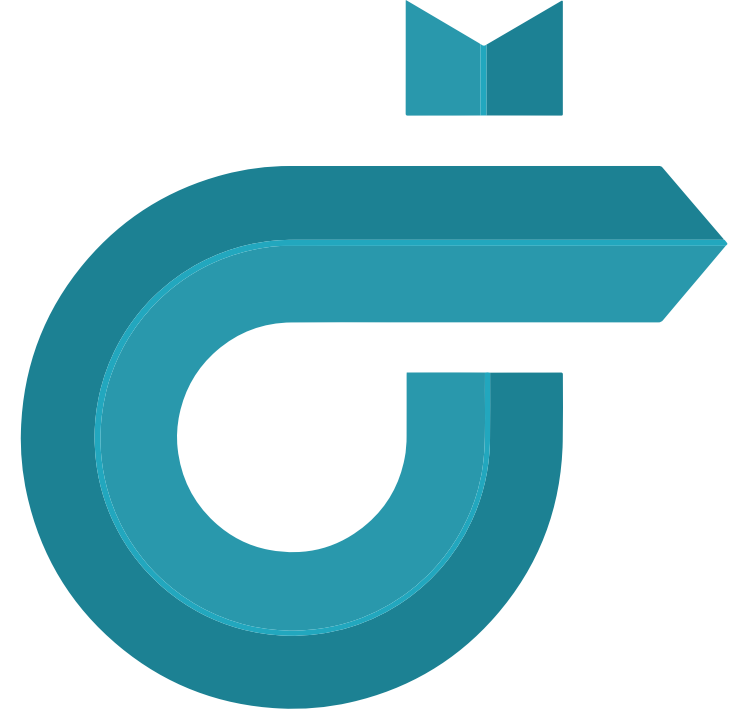


11th ENTSOG Transparency Workshop



December, 6 2017

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ROUTE 4 GAS Ltd

ABOUT R4G

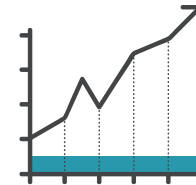
- /// Incorporated in Riga, Latvia in March,2017
- /// IT support by international experienced contractor
- /// Info support by market leading experts



R4G Platform (currently available in demo mode) will include data from all EU countries, collecting and structuring information from various sources



Main focus – to **provide consolidated information** and assist in analyzing trends and logic of European gas transmission system



Ready to offer **analytic services** to market participants, provide full access to our database, deliver customized reports



Potential clients - TSOs, traders, regulatory bodies

NEW APPROACH TO DATA PROCESSING

- /// Key data sources – ENTSOG, PRISMA, RBP (under development)
- /// Additional sources –GIE, Powernext, EEX, CEGH
- /// Data downloads in daily and hourly mode
- /// Online data verification based on scans of market independent sources
- /// Customized analytics can be performed
- /// Adjustable interface and optional data visualization available on demand
- /// **Advanced functionality is under development** (new sources, interconnection points, detailed statistics)

OBJECTIVES

R4G has created a convenient IT tool at the request of potential customers for European market with the following targets:

Deliver a new comprehensive analytic tool for market players



Provide consolidated “bird-view” on the European gas transmission system



Detect system bottlenecks and offer ways for improvement



Combine transmission statistics (ENTSOG) and capacity trading data (e.g. PRISMA, RBP) in a single platform

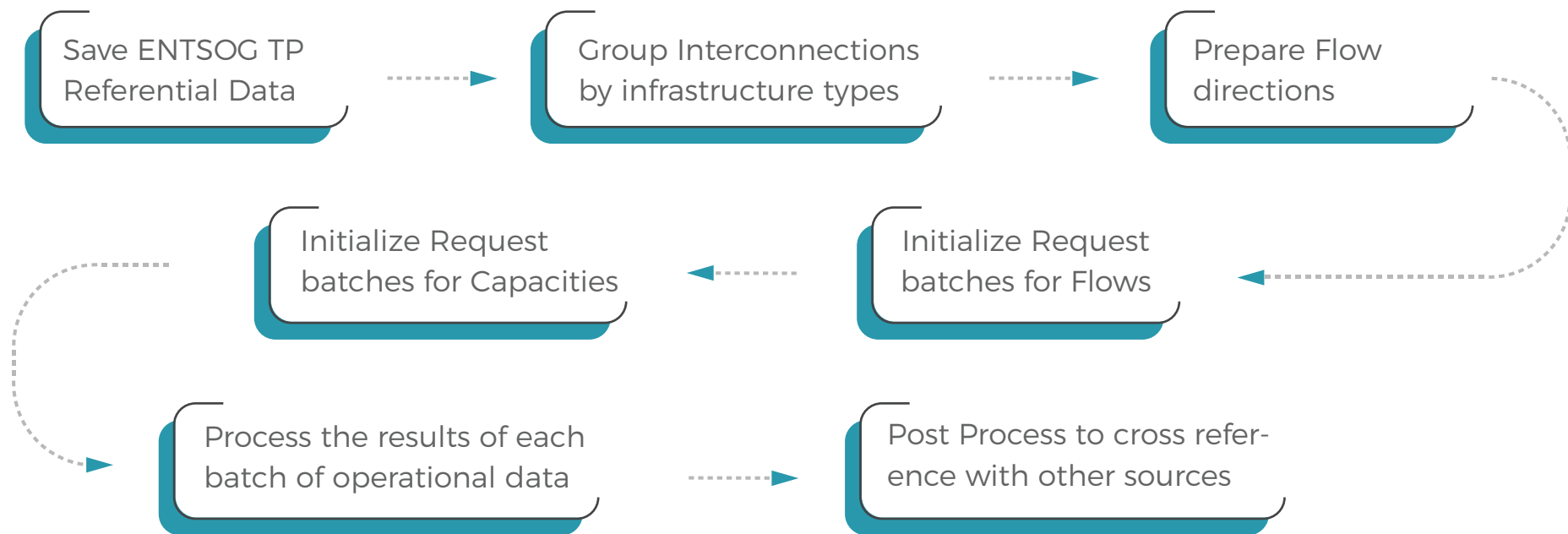


Commercial applications will be available soon and to be discussed individually



ENTSOG TP USAGE IN BRIEF

R4G – ENTSOG TP intercommunication flowchart

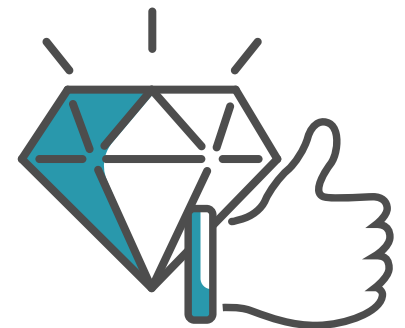


ENTSOG TP User Manual assists to arrange correct data downloading and store all values in appropriately structured database with wide possibilities to process and systemize all downloaded figures *

* - More detailed presentation is available on request

ENTSOG TP ADVANTAGES

- ✓ **User-friendly interface** with wide availability of tools and filters
- ✓ Professional and responsive **support team**, meeting all queries of TP users
- ✓ **Gas transmission transparency** and free access is ensured according to the 3rd Energy Package
- ✓ **Wide opportunities** for data analytics created by obligatory framework of data submission



TP AREAS OF IMPROVEMENT

Information on consumption, import, storages, production is missing or incorrect for some countries

E.g. Austria, Czech, Denmark, Finland, Ireland, Slovakia, Spain, Sweden, UK

Data on Physical Flows, Technical, Booked, Allocated capacities not consistent for a number of points

E.g. France North-Sud Liaison, Gaspool-NCG, Belgium-NCG

Pipe-In-Pipe issue does not allow to make correct assessment of de facto capacities

E.g. Points present in Gaspool, NCG, TTF, Belgium, Austria

Some points behave like Pipe-In-Pipe reporting double value for 2 market areas

E.g. Denmark-Germany interconnection point (Ellund)

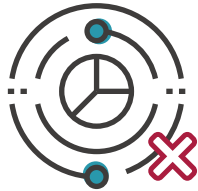
Some TSOs do not provide tariff data or give it in non-standard format, complicating its usage

E.g. Baltic states, Portugal, Italy and others

Consolidated entries/exits data for some Market Areas is not consistent

E.g. Gaspool, NCG, UK, Croatia, Denmark

TP MOST CONFUSING ISSUES



Gas production in United Kingdom not in line with officially reported data

For 2016 TP reports 153 000 GWh, while independent sources give 408 000 GWh

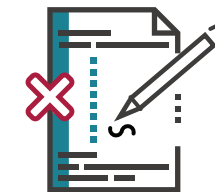


Import from Norway to UK is inconsistent with Norwegian Stat

For 2016 TP reports 537 000 GWh, while Norwegians give 325 000 GWh



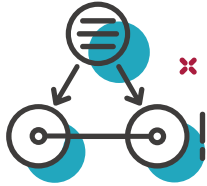
A number of regional TSOs give tariff information in EUR per 1000m³, in local currency, only in national languages



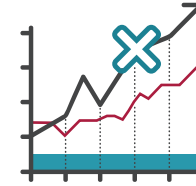
Gas consumption data missing for 10 countries,

manual calculations (entry/exit balancing) give irrelevant results for Denmark, Slovakia, Croatia, UK

R4G CURE



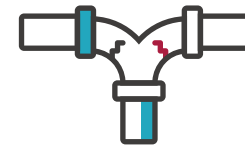
R4G resolved most of detected deficiencies and developed unique algorithm of data verification and cross-checking



Some evident incorrect data from TP ignored to deliver reasonable data to customers

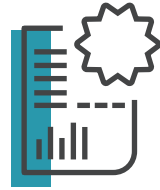


For each imbalanced market area gas entries and exits verified using alternative data sources

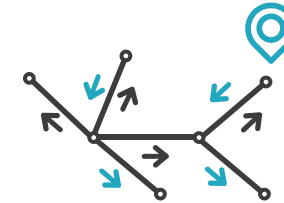


Detected Pipe-In-Pipe cases cured

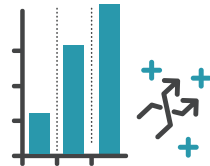
R4G PLATFORM PERSPECTIVES



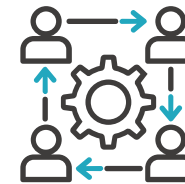
Internal testing and market introduction of new analytic possibilities, Platform public demonstration



Wide possibilities for streams optimization in European scale and for specific areas



Further introduction of additional data sources, detailed processing of collected data



R4G is open for cooperation and ready to demonstrate the advantages of its Platform for any potential partner

THANK YOU!

QUESTIONS

December, 6 2017

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ROUTE4GAS