



Athens Forum

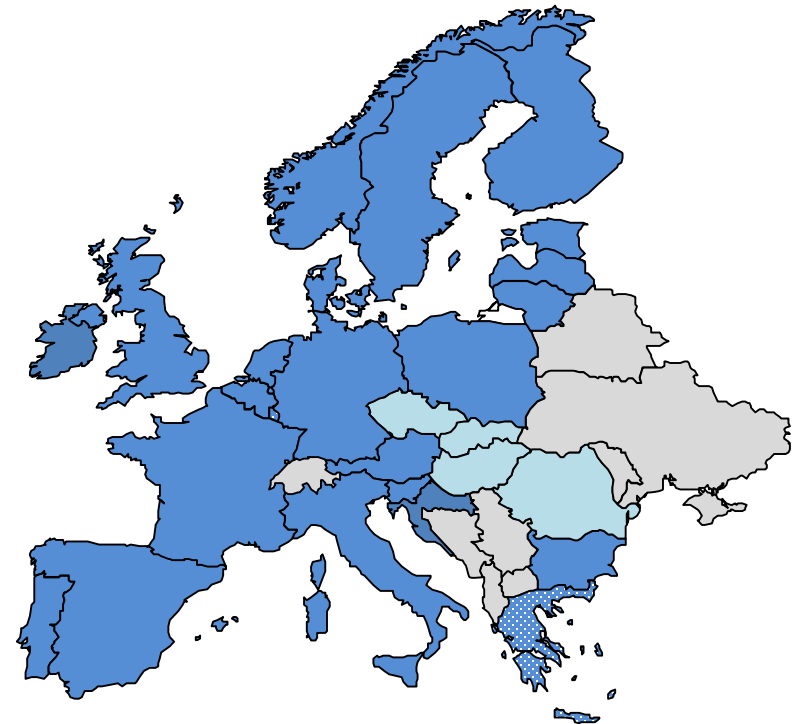
28th-29th May 2019

Single Day-Ahead Coupling (SDAC)

A success story – is expansion possible?

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Co-Chair

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Co-Chair





Single Day-Ahead Coupling: a success story

1

algorithm calculating prices and cross border flows

95

% of EU is coupled

1500

TWh / year in one market solution

1

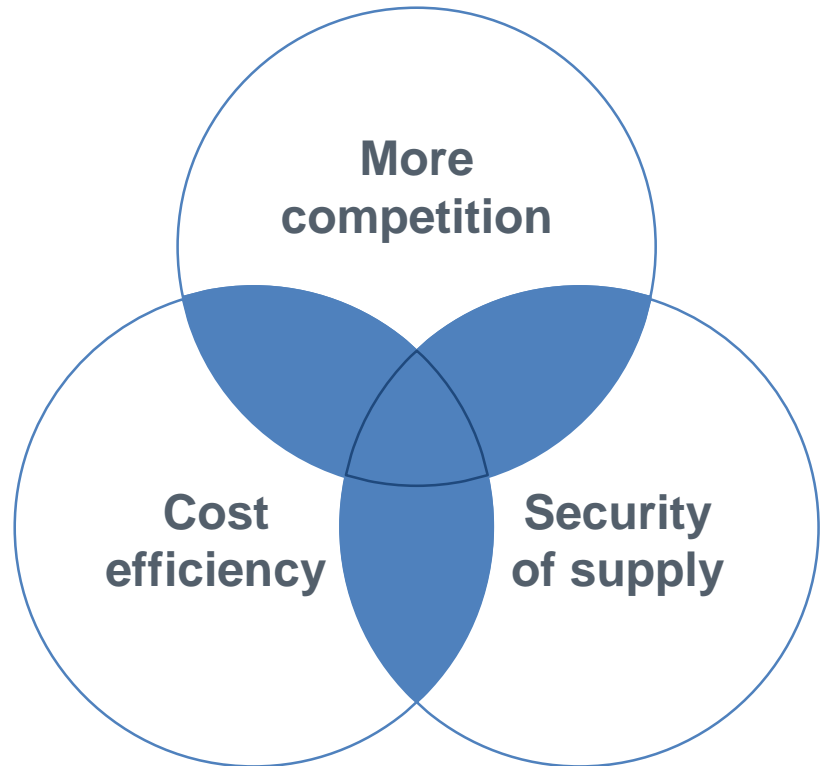
B€ in annual European welfare gain

200

M€ average daily value of matched trades

12

minutes to solve a large and complex optimization problem



Sources:

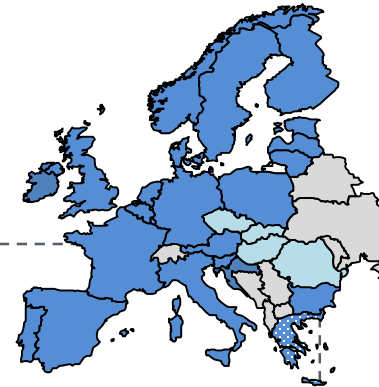
APEX – GO15 conference 2017, Bente Hagem (ENTSO-E),

EPEX Spot: Successful_operation_of_PCR_solution_Power_Exchanges_focus_on_Pan-European_power_market

PCR



Single Day-Ahead Coupling: the journey



Scope extensions

Start of MRC

04.02.2014
NWE Go-Live +
SWE in common
synchronised
mode using PCR

19.11.
Go-live
4MMC

20.05.
CWE flow-
based
implementation

TGE, IBEX
(non-
coupled)
joining

AT-SI
coupling

30.09
Split DE/AT
+ SEM
coupled

2014

2015

2016

2017

2018

2019

13.05.
SWE Full
Coupling

24.02.
CSE Coupling
(Italian Northern
borders)

11.02.
Croatia
(independent
operation)

19.06.
SI-HR
coupling

30.01.
Nemo Link
(GB-BE)

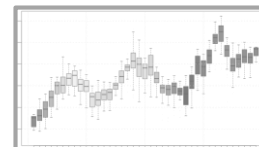
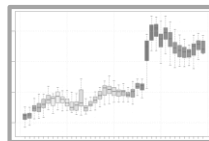
14.02.17: start CACM
cost sharing

28.03.19: entry into
force SDAC DAOA

Market growth

In 4 years, approx. growth:

- From 50k to 75k hourly orders (+50%)
- From 2500 to 4000 blocks (+60%)



Since 2014
approx. 2000 days of
successful coupling!
Not a single failure



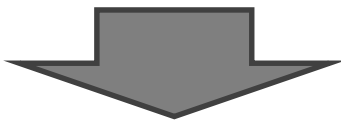
Implementing CACM

- Commission Regulation (EU) 2015/1222 (CACM) of 24 July 2015 was pivotal to move from bottom-up initiatives towards a top-down NEMO-TSO governance under EU regulation.
 - NEMO competition
 - Roles and responsibilities for TSOs and NEMOs
 - Responsibility for operating the day-ahead and intraday market (SDAC and SIDC)
 - Development of methodologies (Algorithm, products, max/min prices, etc.)
 - Capacity calculation methodology, bidding zones configuration, intraday capacity pricing, cost sharing, etc.
- Day-Ahead Operational Agreement (DAOA)
 - Signed by all TSOs and all NEMOs after more than one year of negotiation and entered into force end March 2019 covering two phases:
 - “Interim Phase” during which there are two parallel market couplings, one of MRC and one of 4MMC, jointly forming the Single Day-Ahead Coupling (SDAC) in implementation of CACM;
 - “Enduring Phase” during which there will be one Single Day-Ahead Coupling only (MRC and 4MMC coupled).



Parties forming SDAC

Coupling	Members
MRC	<p><u>Operational parties:</u> NEMOs: BSP, Cropex, Eirgrid/SONI (SEMO PX), EMCO Nord Pool, EPEX, GME, IBEX (non-coupled), OMIE, TGE TSOs: 50Hertz, Amprion, APG, AST, BritNed, EirGrid, Elering, ELES, Elia, Energinet, ESO, Fingrid, HOPS, Litgrid, Nemo Link, NGIC, PSE, REE, REN, RTE, SONI, Statnett, SvK, Terna, TransnetBW, TTG, TTN</p> <p><u>Non-operational parties:</u> NEMOs: EXAA, HEnEX TSOs: Admie, Creos</p>
4MMC	<p>NEMOs: HUPX, OKTE, OPCOM, OTE TSOs: ČEPS, MAVIR, SEPS, Tranelectrica</p>

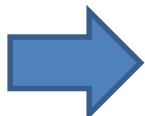
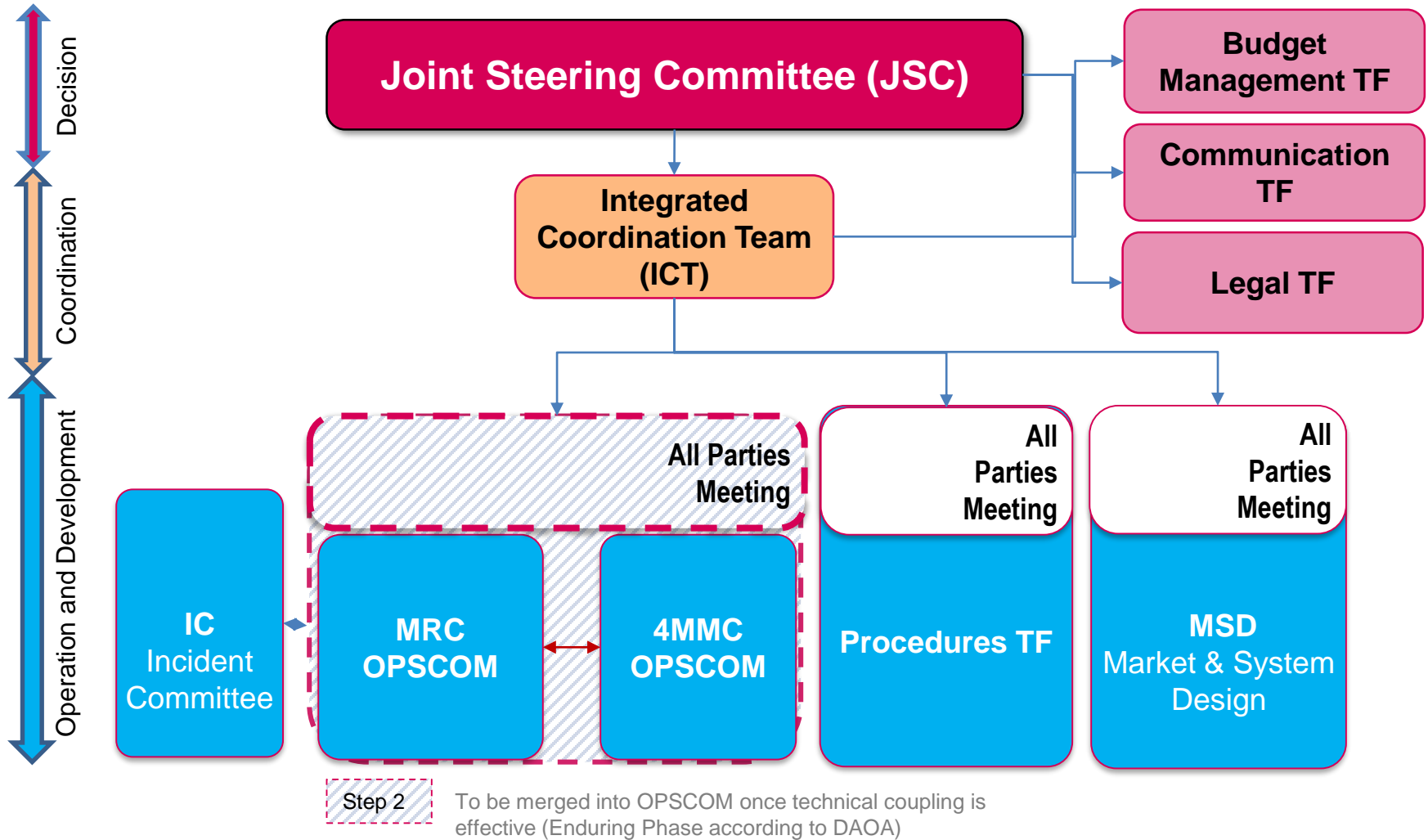


Currently 49 parties forming SDAC





Current SDAC governance

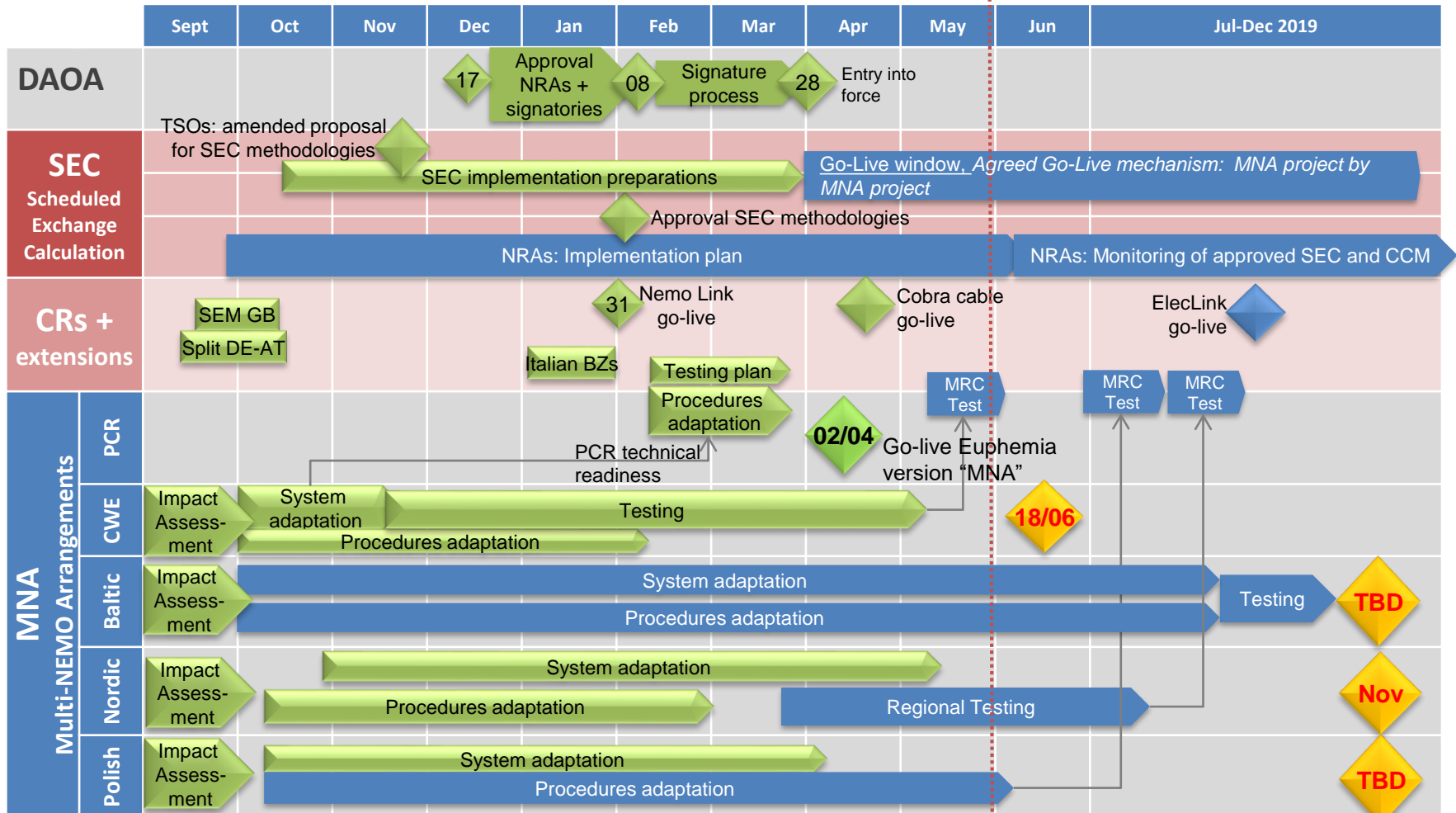


The interim governance & ToR for all project bodies were approved in April and practical implementation is currently ongoing.



High level planning SDAC

Today

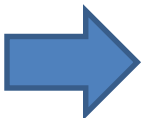
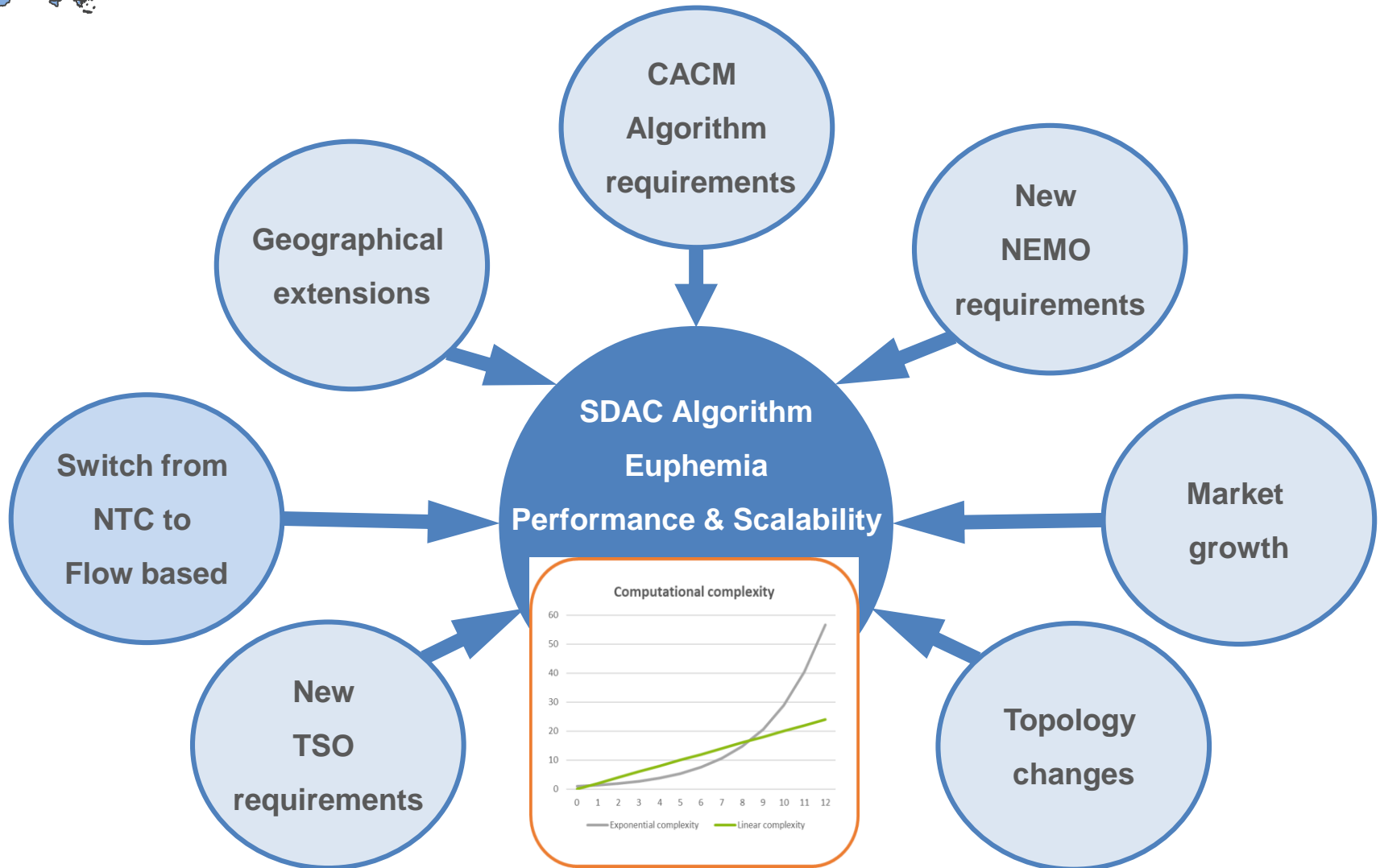


Legend:

- DD (blue diamond) Planned milestone
- DD (green diamond) Completed milestone
- DD (yellow diamond) MNA Go-Live
- Process (arrow)



Challenges on algorithm



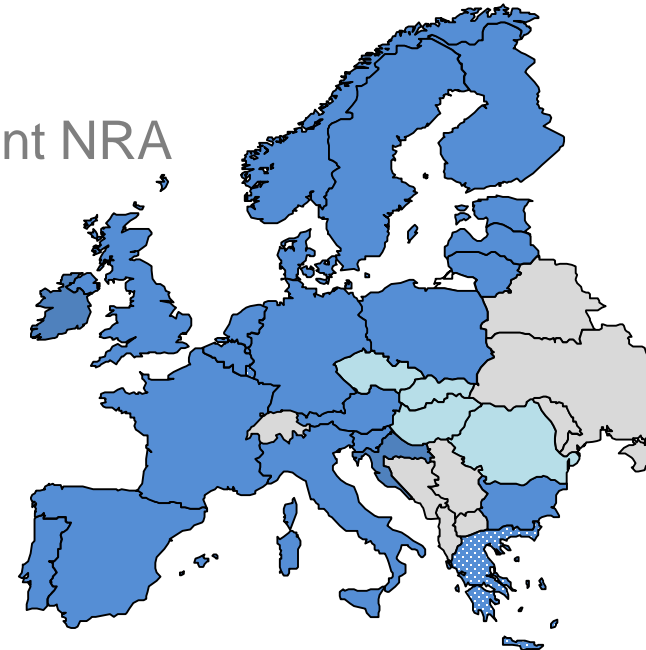
Joint NEMO & TSO Research and Development program kicked-off !



Further expansion is possible

... when the following conditions are met:

- Harmonized laws and rules
 - National legislation, implementing 3rd IEM Package
 - CACM adoption/implementation
- Establish a PX
 - Can also be a PCR serviced solution
 - Agree on NEMO committee adherence
 - PX to be designated as NEMO by the relevant NRA
- Identify a partner inside SDAC
- Establish a bilateral/regional coupling project





Thank you very much for your attention!

Questions?

Ole Jacob Høyland (TSO)
Co-Chair

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Co-Chair

