



union for the co-ordination of transmission of electricity

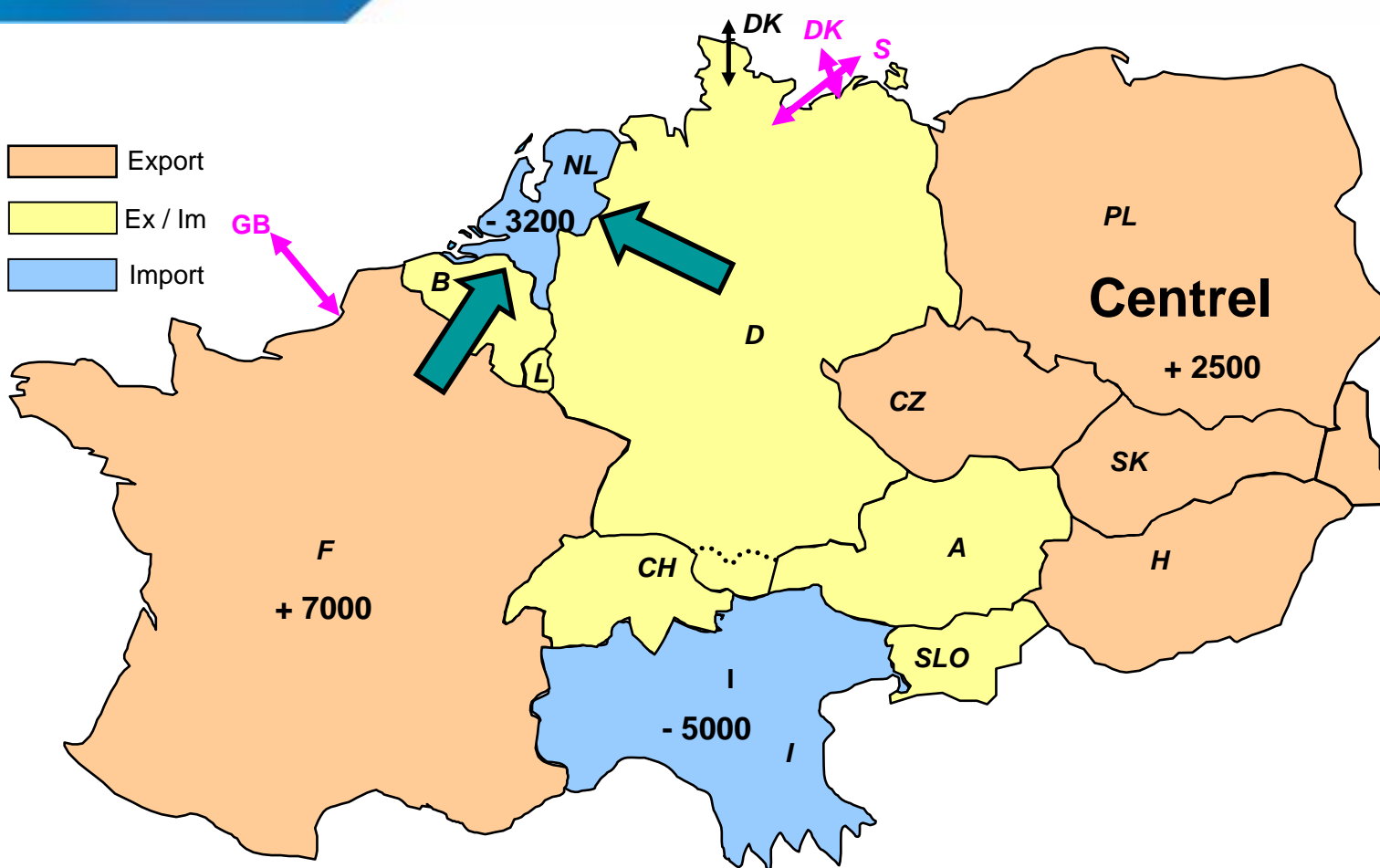
European Electricity Regulatory Forum 8 July 2003

Congestion Management - UCTE



UCTE, 15 Boulevard Saint-Michel, 1040 Brussels, Belgium, info@ucte.org

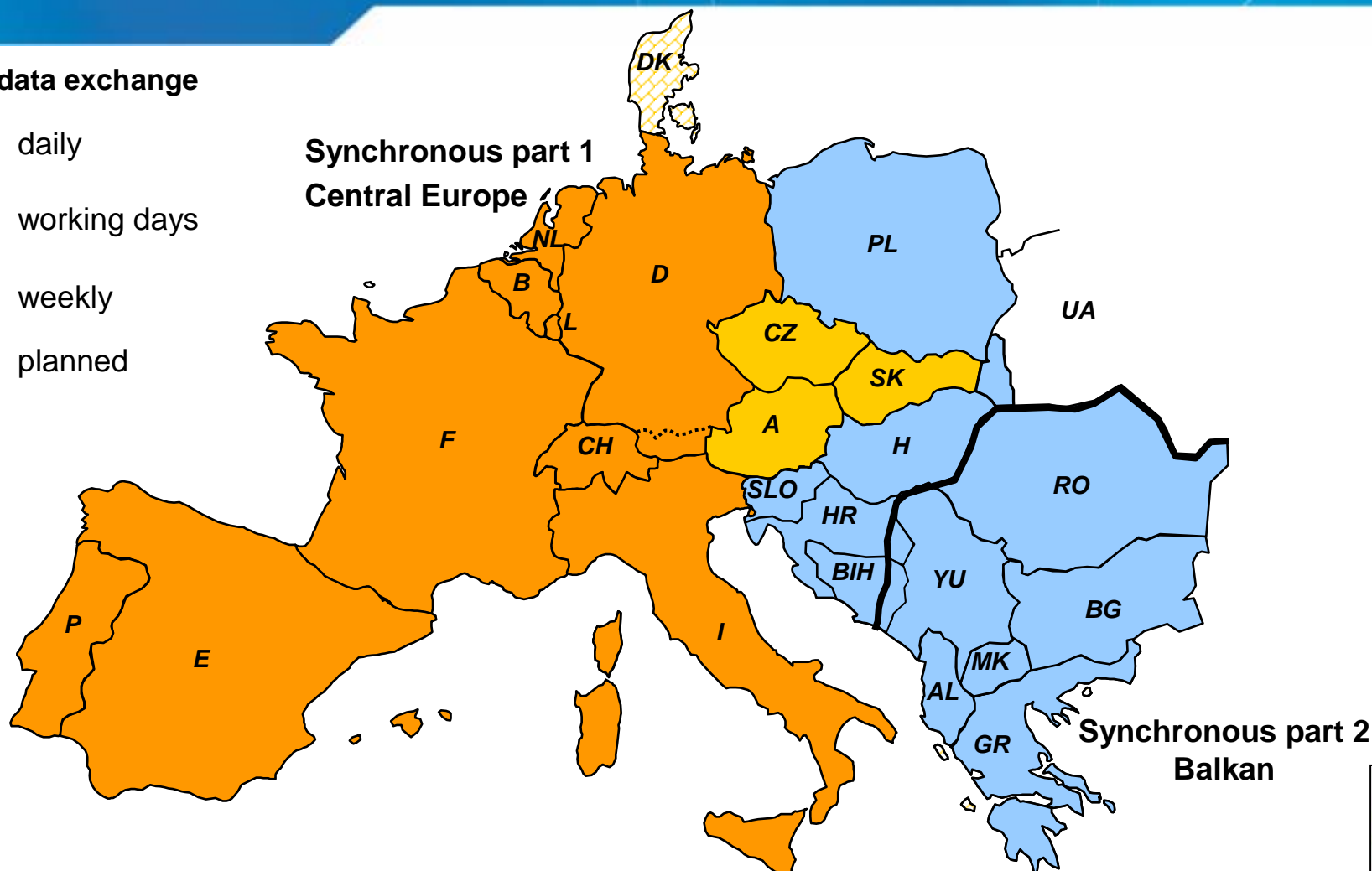
Typical Export-Import-Situation



DACF – Today's Participation in Europe

Cycle of data exchange

- daily
- working days
- weekly
- planned

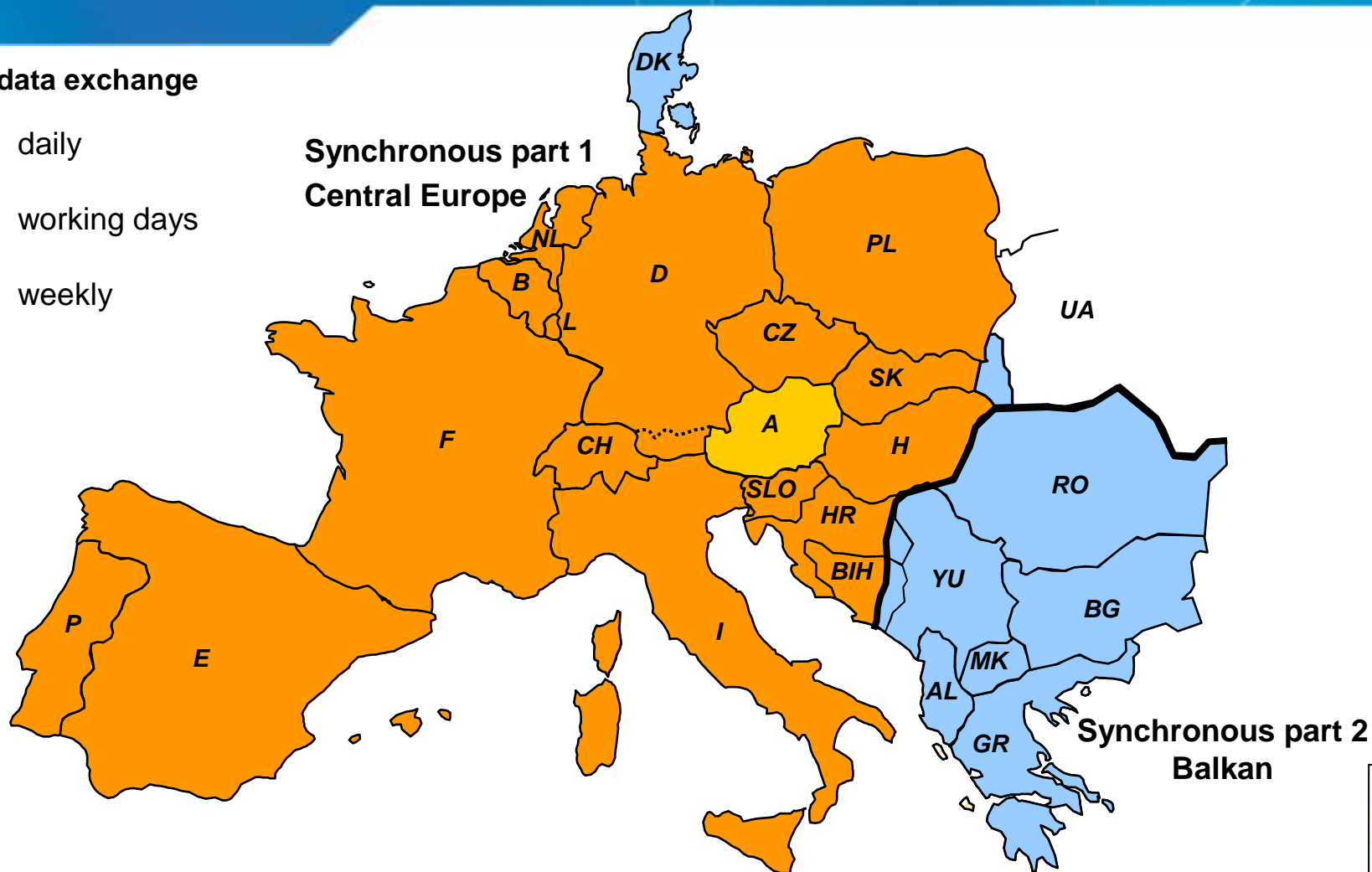


State: End-June 2003

DACF – Planned Participation (End of 2003)

Cycle of data exchange

- daily
- working days
- weekly



DACF – Further Development

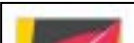
End
of
2003

		<div>working</div>	<div>able to be realized next 6 month</div>	<div>able to be realized end of 2003</div>	<div>not foreseen at the moment</div>																					
DACF procedure		synchronous part 1																synchronous part 2								
24h per day	168																									
next step to define	??																									
⋮	⋮																									
next step to define	??																									
daily 10h30 daily 03h30	14																									
daily 10h30 weekly 03h30	8																									
daily 10h30	7																									
working days 10h30 weekly 03h30	6																									
working days 10h30	5																									
weekly 10h30 weekly 03h30	2																									
weekly 10h30	1																									
cycle of data delivery	number of data sets per week	A	B	BIH1	CH	CZ	D	DK	E	F	H	HR	I	NL	P	PL	SK	SLO	UA	AL	BG	BIH2	GR	MK	RO	YU
ETSO EH access																										

direct link

linked via ISDN

not possible



direct link

linked via ISDN

not possible

Accuracy Analysis of DACF-Procedure

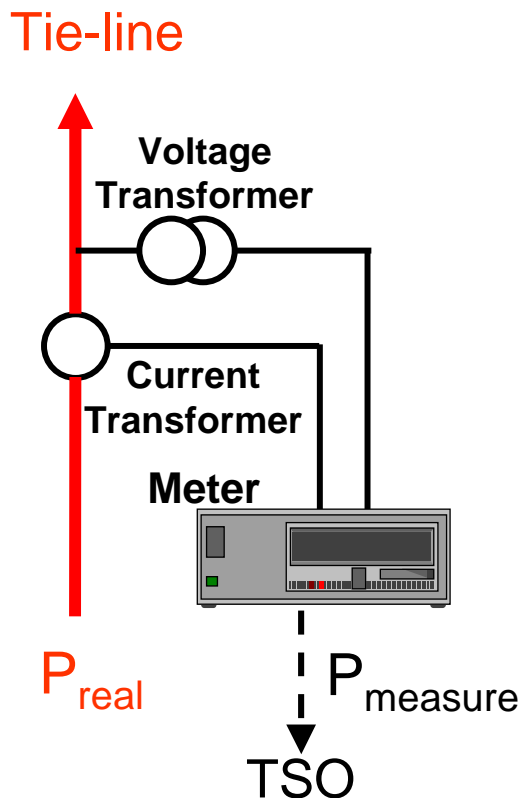
Accuracy of measurement for power flow

- measurement error: $\frac{P_{\text{real}} - P_{\text{measure}}}{P_{\text{capacity}}} = 1 \dots 1,5\%$
- example Vigy-Uchtelfangen: $P_{\text{capacity}} = 1790 \text{ MW}$
max. measurement error: $P_{\text{real}} - P_{\text{measure}} = 27 \text{ MW}$

DACF-Experiences at TSO Brauweiler

Differences between DACF power flow P_{DACF} and measured flow P_{measure} on tie-lines:

- Relative difference per border TSO-TSO:
$$\frac{P_{\text{DACF}} - P_{\text{measure}}}{P_{\text{capacity}}} \approx 1 \dots 10\%$$



Accuracy Analysis of DACF-Procedure

Conclusions

- accuracy of DACF power flows (TSO-TSO) are in the range of measurement error for power flow control
- accuracy of DACF sufficient for operational needs
- larger differences on single lines due to changes in generation patterns (e.g. pump storage power plants close to the border)

Next Step

UCTE is improving forecasts by shorter cycles