



II Workshop YEF ITCOLD

The Young Engineers
Forum, the link between
old and *young* generations
of experts on dams

Santa Sofia (FC)

Centro Operativo di Capaccio
9th May 2019, 08:45-18:00



Romagna Acque
Società delle Fonti

Czech Model of YEF and Academia Cooperation for New Generations of Dam Engineers

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CZCOLD – board, general secretary, YEF*

WITH THE PATRONAGE



CONSIGLIO NAZIONALE
DEGLI INGEGNERI

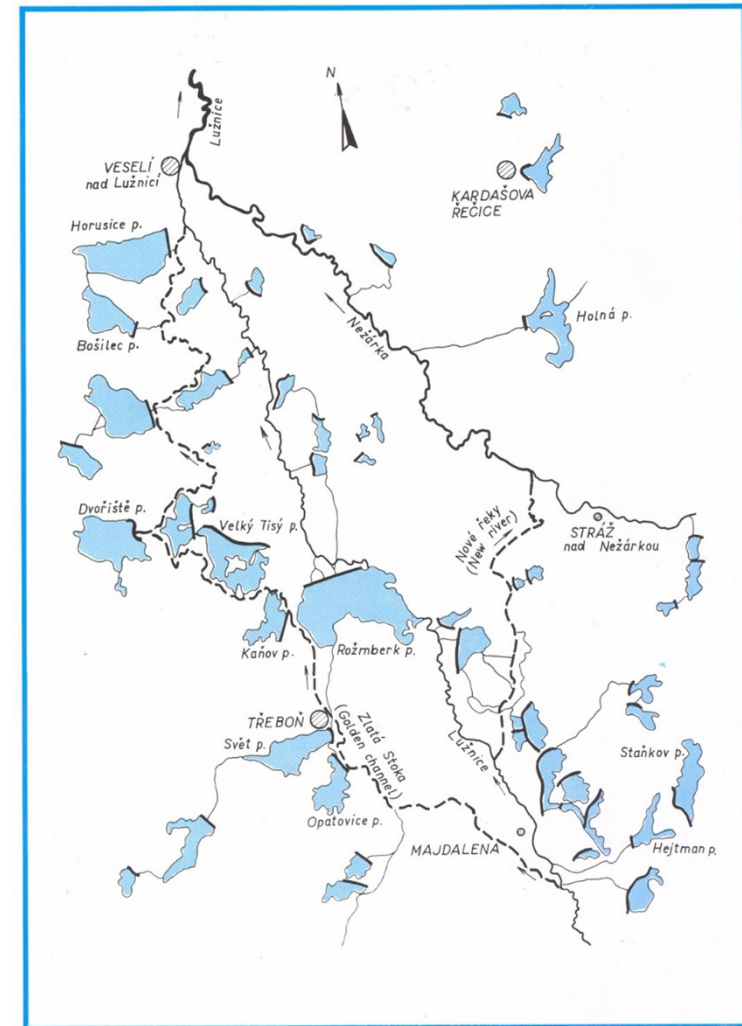




Key question: how to cope with
decreasing numbers of dam engineers
in the Czech Republic

Czech dams - history

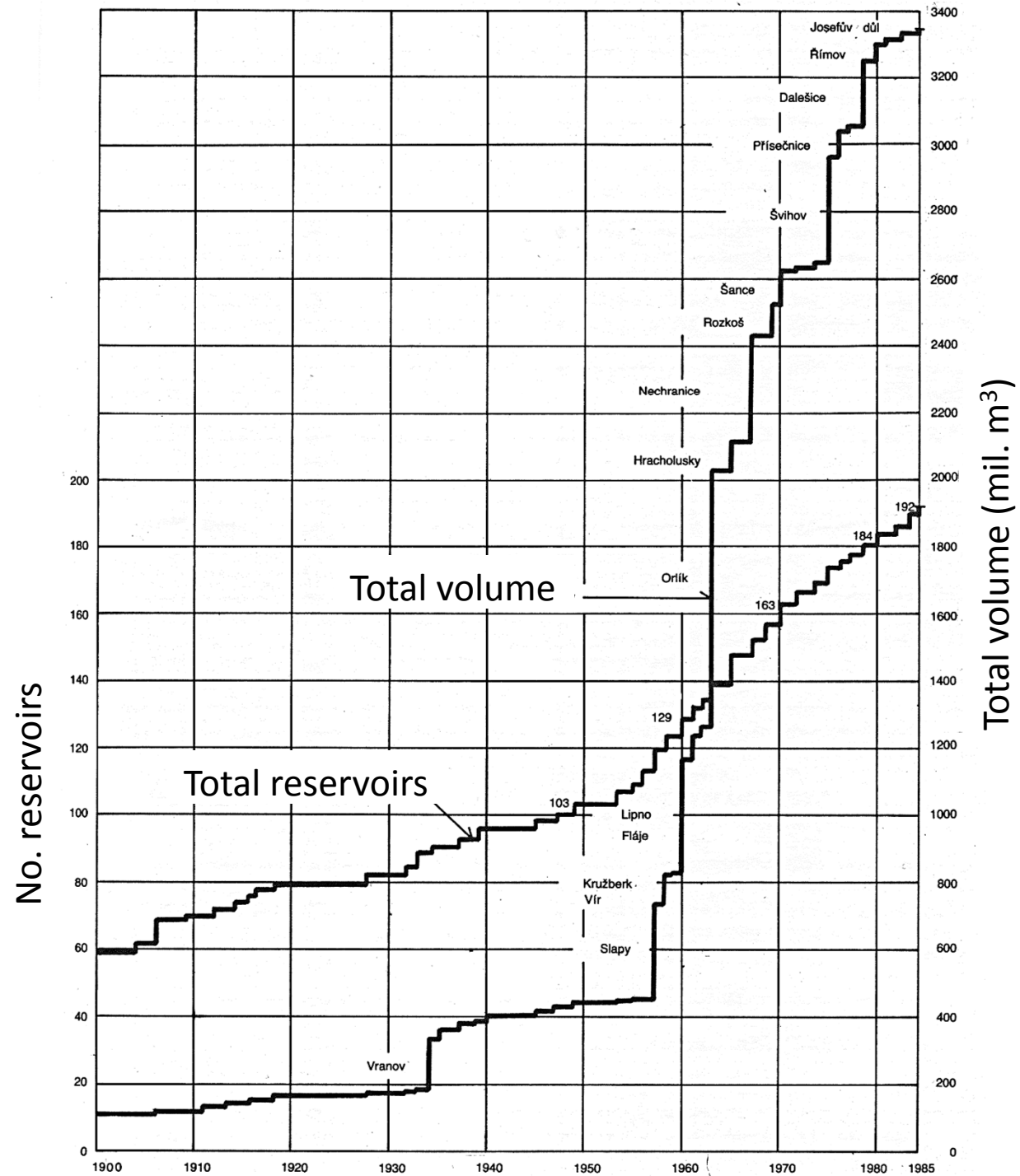
- 14th – 16th century
- Ponds in South Bohemia
- Jordan reservoir
 - 1492 AD
 - oldest WS reservoir in central Europe
- 2nd half 20th century
“golden age” of dam construction



Sketch map of Southern Bohemia pond system (14th—16th century) near Třeboň

Southern Bohemia pond system ▶







DAMS IN CZECH REPUBLIC

Period of completion

Type	Total number	Up to 1900				1901–1951				1951–2000			
Height (m)		-30	30–59	60–99	100–	-30	30–59	60–99	100–	-30	30–59	60–99	100–
TE	53	9				7				32	5		
ER	20									6	10	3	1
PG	38	2				11	12			3	7	3	
CB	1										1		
VA	1										1		
Total	113	11				18	12			41	24	6	1

TE – earthfill; ER – rockfill; PG – gravity; CB – buttress; VA – arch

RESERVOIRS WITH STORAGE CAPACITY SUPERIOR TO $100 \times 10^6 \text{ m}^3$

Name	River	Year of completion	Capacity	Purpose
Orlík	Vltava	1963	716.5	H, C, I, R
Lipno	Vltava	1960	306.0	H, C, R
Nechranice	Ohře	1968	272.4	S, H, C, I, R
Slapy	Vltava	1957	269.3	H, C, I, R
Želivka (Švihov)	Želivka	1975	266.0	S
Slezská Harta	Moravice	1997	219.0	S, H, C, R
Nové Mlýny I, II, III	Dyje	1988	133.9	C, I, R, H
Dalešice	Jihlava	1978	127.3	H, R
Vranov	Dyje	1934	122.7	H, C, S, R

C – Flood Control; H – Hydro Power; I – Irrigation; S – Water Supply; R – Recreation



Czech dams - present

- New development
 - adaptation
 - flood protection, drought period
 - smallest m^3/capita
- Safety improvement
 - capacity of the outlet structures
 - slope stability
 - drainage and grouting

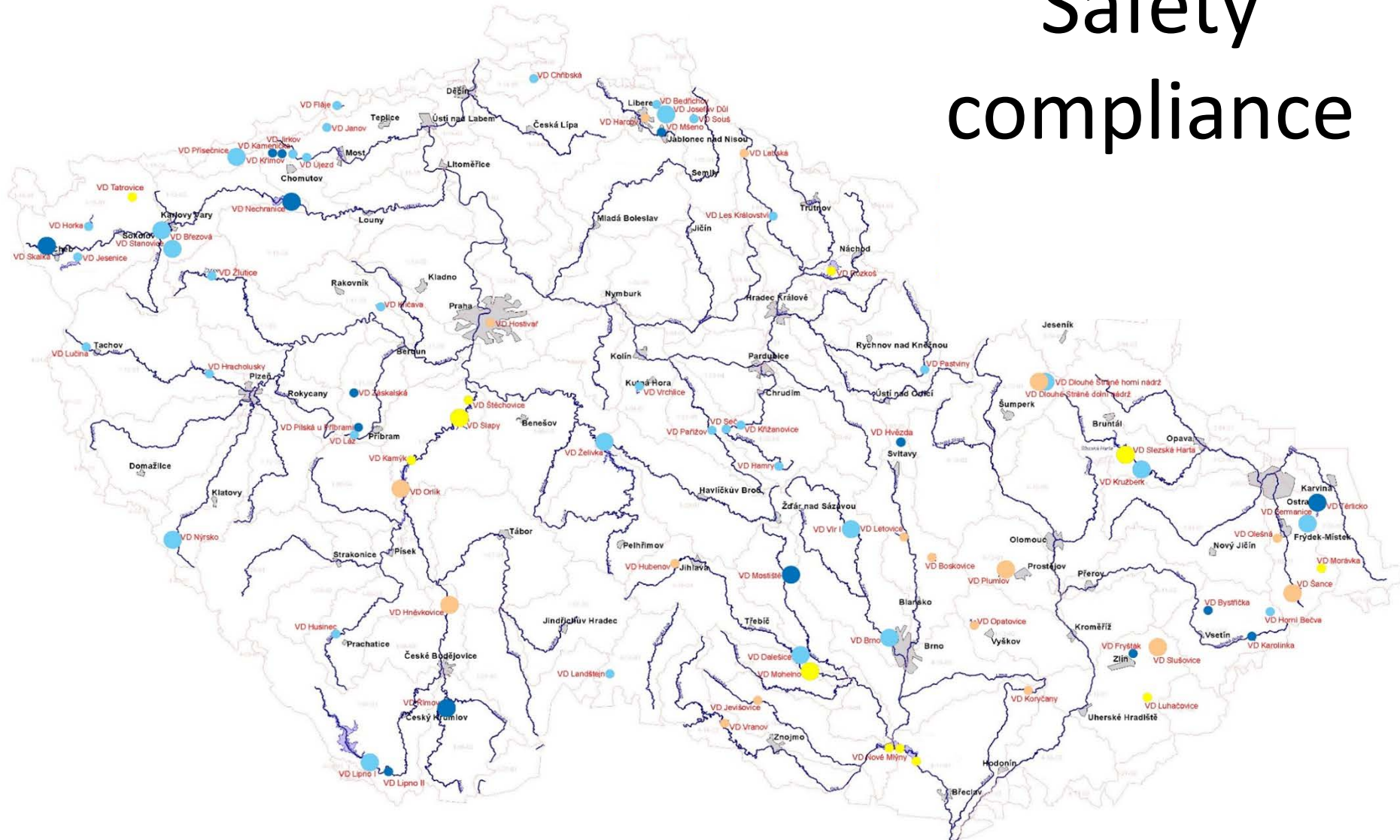


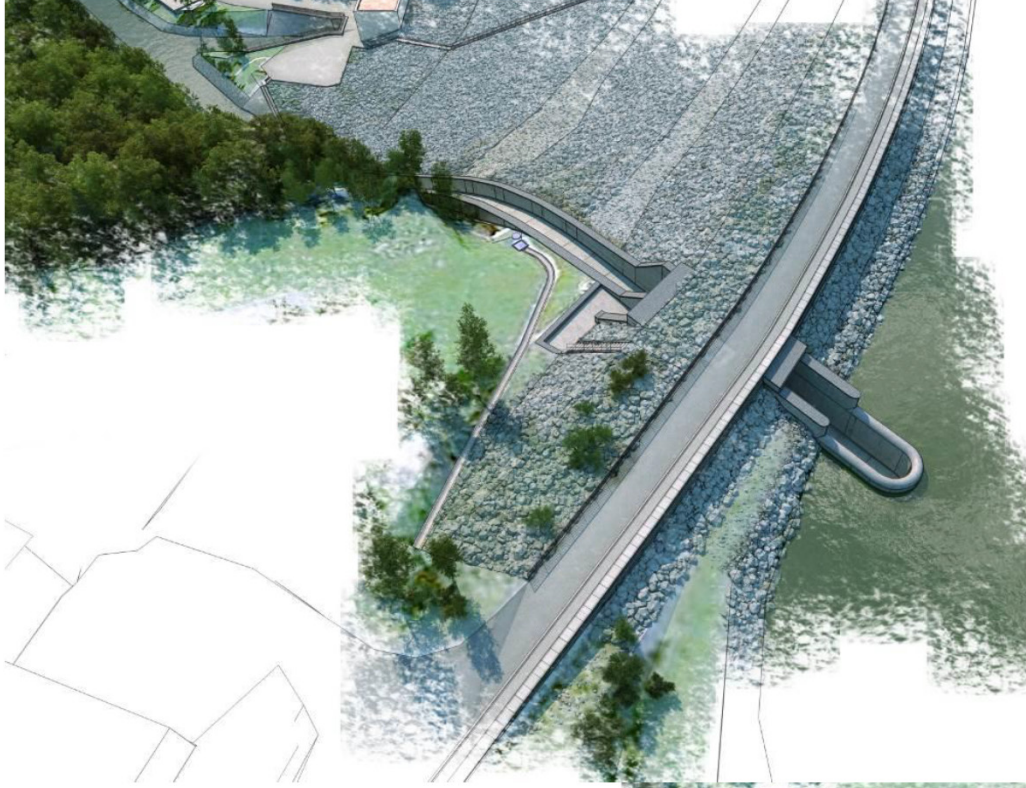


9th May 2019, Centro Operativo di Capaccio, Santa Sofia (FC)

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Safety compliance











**ČESKÝ PŘEHRADNÍ VÝBOR
CZECH NATIONAL COMMITTEE ON LARGE DAMS
COMITE NATIONAL TCHEQUE DES GRANDS
BARRAGES**

- Founding country in 1928 (Czechoslovakia)
- organizing ICOLD Annual meeting in 2017
- 15 collective and 100 individual members (12 ICOLD TC)
- Annual meeting
 - Collective members activities report
 - Technical section – different topics
 - Technical excursion
- every 2 years – Days of Dams (coop with SKCOLD)
 - 400 participants
 - contributions + technical excursion



Czech YEF

- Established 2018
- Dr. Jiri Hodak – founder of the ICOLD YEF 2012
- Annual meetings (technical excursion)
- Collective members
 - 5 individuals
- Best technical contribution
 - ICOLD annual meeting paid



Academia – Water management in Czech Republic

- 3 major technical universities
 - CTU in Prague since 1707
- Student numbers
 - gradual decrease
 - 453 in Civil Engineering 2012
 - 270 in Civil Engineering 2019
 - corresponding with birth rates





4 step plan in joint cooperation Academia and CZCOLD (YEF)

Challenge

- Get students to take interest in WM
- Draw students attention to dam engineering
- Introduce students to executive individuals
- Keep young engineers in business

Action

- Technical excursions during first 2 years
- Bachelor and Diploma thesis topics provided by the collective members
- Opponents and committee members – executive officials of the collective members
- Free support of YE from academia



Thank you for your attention