

**CETOP General Assembly**  
**22-23 June**  
**Bologna, Italy**





70 years ago  
Foundry and iron cast...  
→ Hydraulics starts  
in Europe

DNA?  
Hydraulics =  
Fluid Mechanics =  
Hardware based Business

# ORIGIN



Differentiation

Software /  
Digitalization

Mechanics

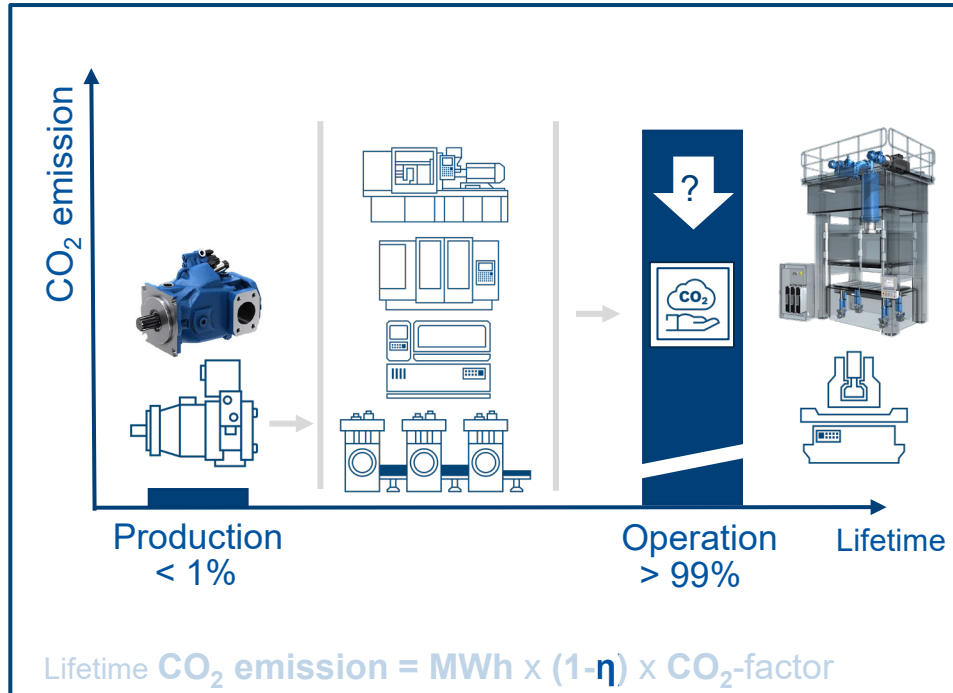
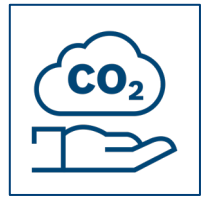
Commodity

Time

Which role plays  
software/digital/data  
for Fluid Power  
in the future?

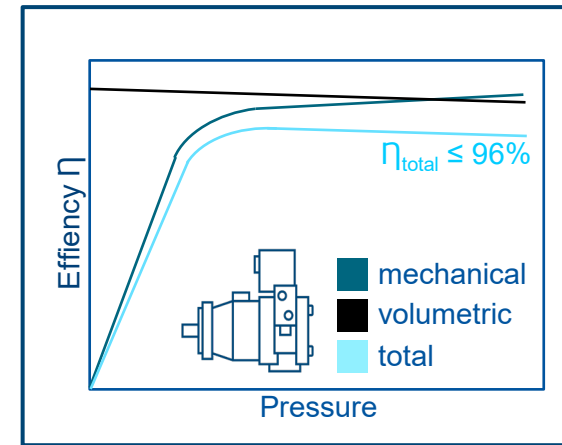


# Software is the key to any competitiveness

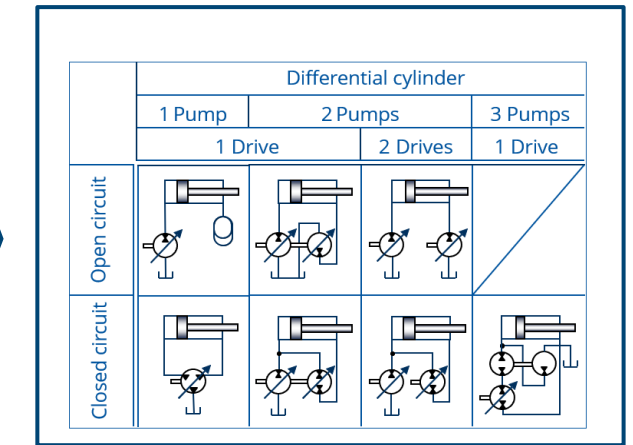


Mechanics

## Hydraulic Components

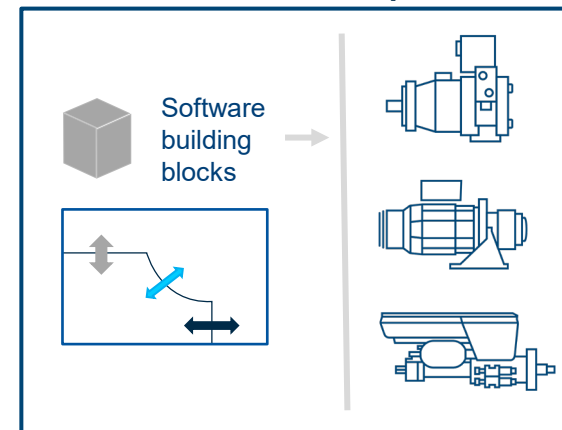


## Hydraulic Systems

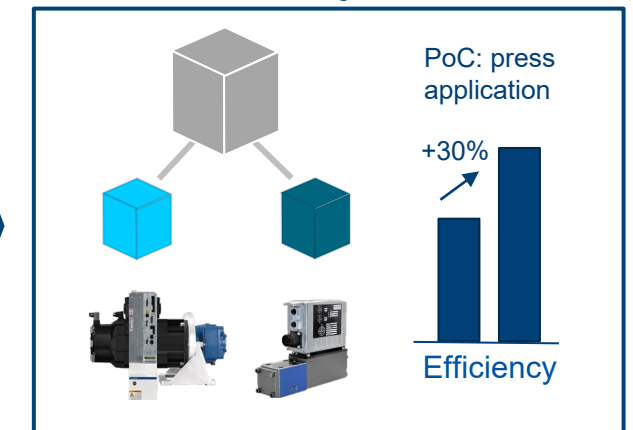


Software

## Mechatronic Components



## Mechatronic Systems



# Global Fluid Power World, TOP3 Markets



Challenger

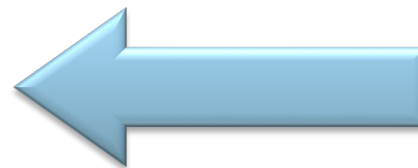
	USA	EU	Germany	China
Fluid Power Association	NFPA → Industry (GFPS → Academia)	CETOP → Industry	VDMA → Industry	CHPSA → Industry FPTCI → Academia
TOP3 Companies	Parker, Eaton, Moog	Danfoss, Interpump, Poclairn	Rexroth, Festo, Hydac	Rexroth, KPM, Hengli
TOP3 Universities	Purdue University Univ. of Minnesota Milwaukee S. of Eng.	Politechn. de Torino Tampere University Bath University,...	RWTH Aachen TU Dresden KIT Karlsruhe...	Zhejiang University Yanshan University Beijing University....
Know How Industry				
Fluid-Mechanics	High	High	High	Medium/High
Electronics/ Software	High	Medium/High	High	Low
Know How Universities				
Fluid-Mechanics	High	High	High	High
Electronics/ Software	Medium/High	Medium/High	Medium/High	Medium/High
Cost Level				
HPP	High	High	High	Medium
MPP	-	-	-	Low

# The whole is more than the sum of its parts...



Country	DE	FR	I	GB	CH	NL	BE	CZ	ES	TR	DK	NO	SE	FI	PL	RO	SI
Association	VDMA Fluid	ARTEMA	ASSO-FLUID	BFPA	GOP + Swiss-mem	FEDA	INDU-MOTION	CAHP	AIFTOP	AKDER	BITVA	HPF Norway	SFMA + TGS	FFPA	Corporation	FLUID-AS	FTS
Full-Time (x); Legal office/ service provider (o)	x	x	x	x	o x	o	o	o	x	x	o	o	o	o	o	o	x
Number of members (approx.)	230	150	180	240	85	165	80	22	25	74	10	20	64	58	22	26	14
besides manufacturers also distributors, universities,...	no	no	x	x	x	x	x	?	x	x	?	x	x	?	x	x	x
Number of employees	10	5	5	5	3	3	1	1	3	2	1,5	1,5	2,5	2	1	0,5	0,5

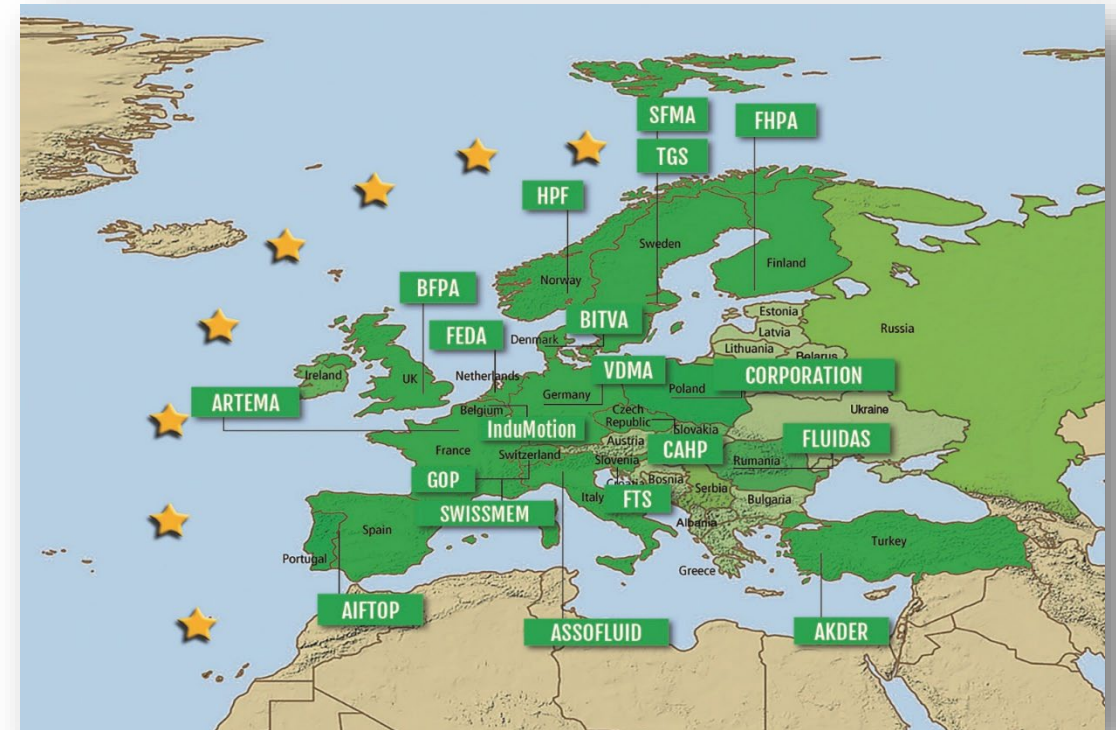
- **Number of members not always comparable, because retailers/distributors or other industries (e.g. Power Transmission Engineering) are partially included**
- **Basic services offered by more or less all associations:**
  - National networks & committees
  - Market information & statistics (already a key asset of **CETOP**)
  - Public relations & trade fairs
- **Great potential and synergy opportunities:**
  - Education & training topics
  - Technical topics & technical lobbying (e.g. digitalization or sustainability)



## Expansion of networks and improvement of cooperation



- The EU Fluid Power industry is under pressure – both from markets/customers and from foreign nations.
- We do not realize any conflict with CETOP with the individual associations – we need coexistence and cooperation.
- CETOP has to get more into an active mode. Cross-national cooperation has to be increased and strengthened.
- More companies and experts must be actively involved in CETOP than in the past.
- VDMA as the largest association is willing to provide capacity and manpower to lead on strategic issues.
- **Only together we can advance Fluid Power in Europe.**



# Future approach for Europe?

## Do nothing

Stay as it today.

All universities/ companies go their own way in their countries.

No joint forces.

## Do something

### University Level

Co-ordination of research work

Build up one common Fluid Power research program based on Digitalization and Sustainability  
→ ROADMAP, TASK SHARING

Re-establish a European University Fluid Power Network

Using IFK 2024 Dresden as Kick Off event with leading European Universities

### Industry Level

Electronics/ Software/ Data

Build up common Connectivity, Interoperability, Fluid Power Data Ecosystem, Fluid Power Data Standards  
→ COMPANY IMPLEMENTATION

Using CETOP as nucleus  
or  
Establish an VDMA Competence Center with leading EU companies

Using CETOP Meeting Bologna 2023 for a direction decision