

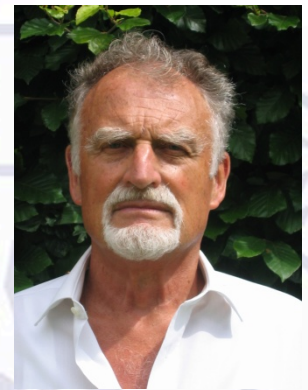
PROMETHEE methods

Prof. Y. De Smet

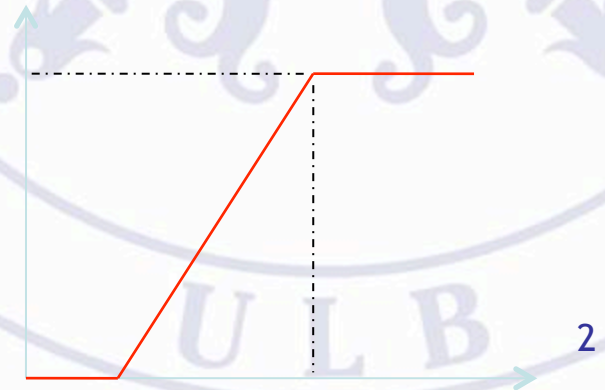
CoDE-SMG, Université libre de Bruxelles (Belgium)

MCDA 81 - Annecy

ULB PROMETHEE I & II



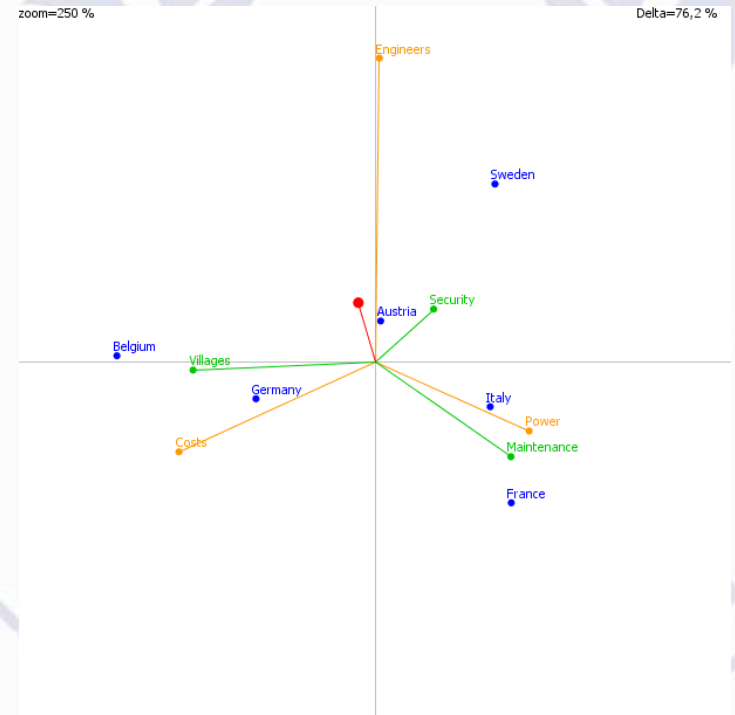
- J.P. Brans (1982)
- Method based on 5 « steps »:
 - Difference between pairs of alternatives on each criterion
 - Unicriterion preference degrees
 - Preference degrees
 - Positive, negative and net flow scores
- At most $3 \cdot q - 1$ parameters



Major contributions (1982 - 2000)



- GAIA visual analysis
- Sensitivity analysis
 - Walking weights;
 - PROMETHEE VI;
 - Stability intervals;
- Software (B. Mareschal)
 - PROMCALC
 - Decision LAB 2000



More recently

- Preference elicitation
- Rank reversal
- D-SIGHT web (Hayez)
- Extensions to:
 - Sorting
 - Clustering
 - GIS



To conclude

Behzadian, M.; Kazemzadeh, R.B.; Albadvi, A.; Aghdasi, M. (2010) « *PROMETHEE: A comprehensive literature review on methodologies and applications* », *EJOR*, Vol.200(1), 198-215

Current PhD:

- Extension to temporal evaluations
- Synergies with DEA
- Clustering/Sorting
- Applications (to road design, 3D IC, etc.)