

Future Manufacturing Group at Coventry University

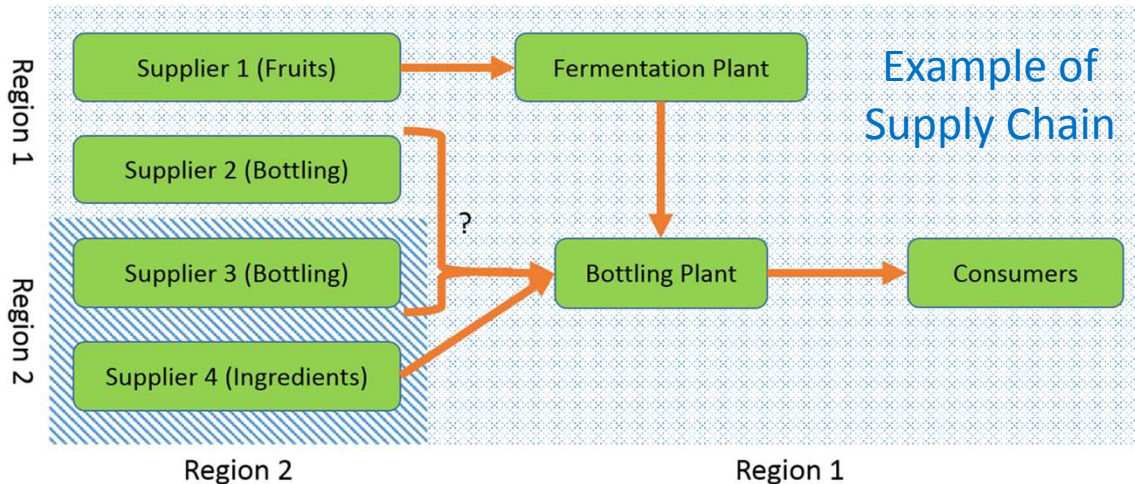
Digital Technologies for Manufacturing Innovation:
Embracing Industry 4.0

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Interdependence criteria

- Inventory
- Trade volume
- Lead-time
- Distance
- Collaboration agreement
- Information transparency
- Compatibility of IT systems
- Substitutability of product / service
- Substitutability of supplier / buyer

Risks can occur at company, regional or global levels:

- | | |
|--------------------------|----------------------------|
| Instability of Supplier | Poor batch of raw material |
| Environmental Pollution | Transport Disruption |
| New Regulations | Currency Instability |
| Import – Export Controls | Political Instability |
| New Market Trend | Disruptive Technology |

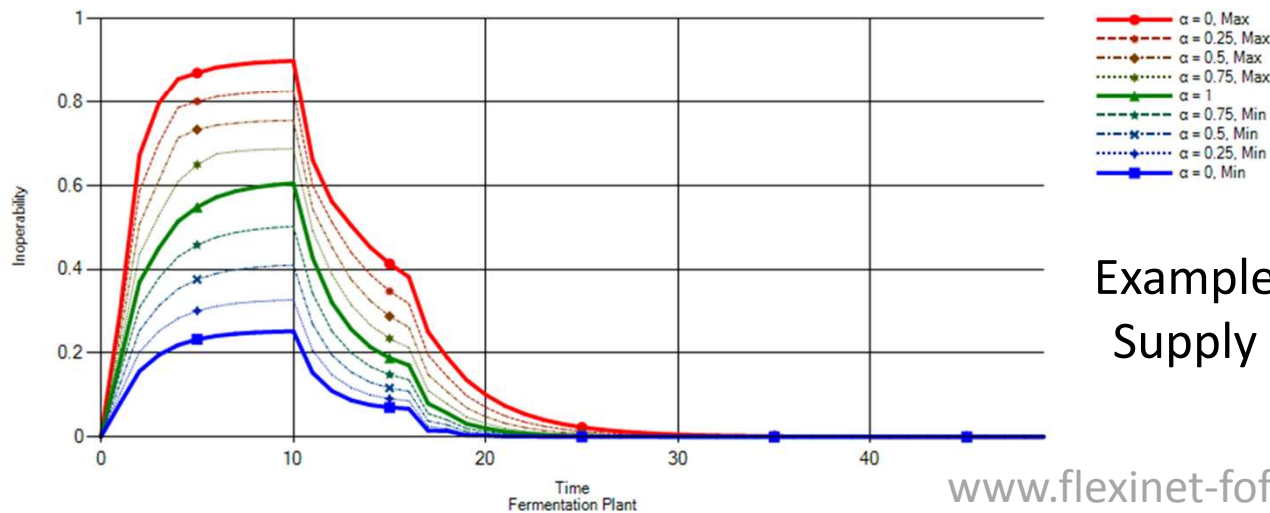
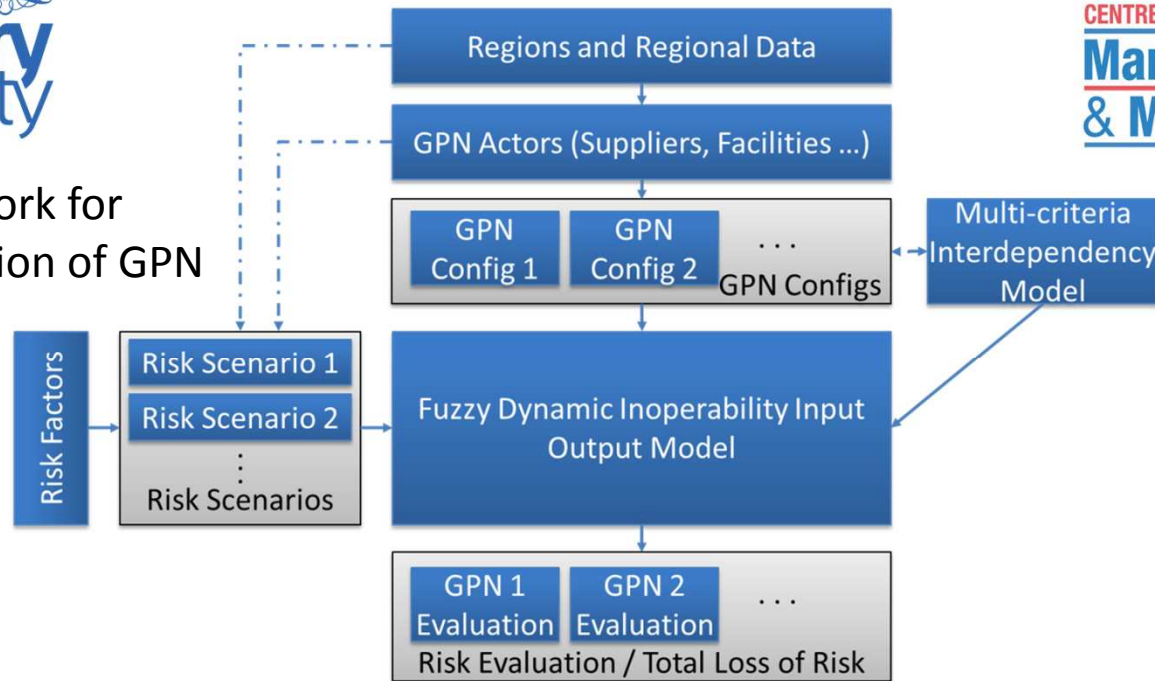
Strength of Interdependence:

Linguistic rating (low, medium, high) and confidence in its estimation.



Fuzzy weight calculated for each
→ Ordered Weighted Average

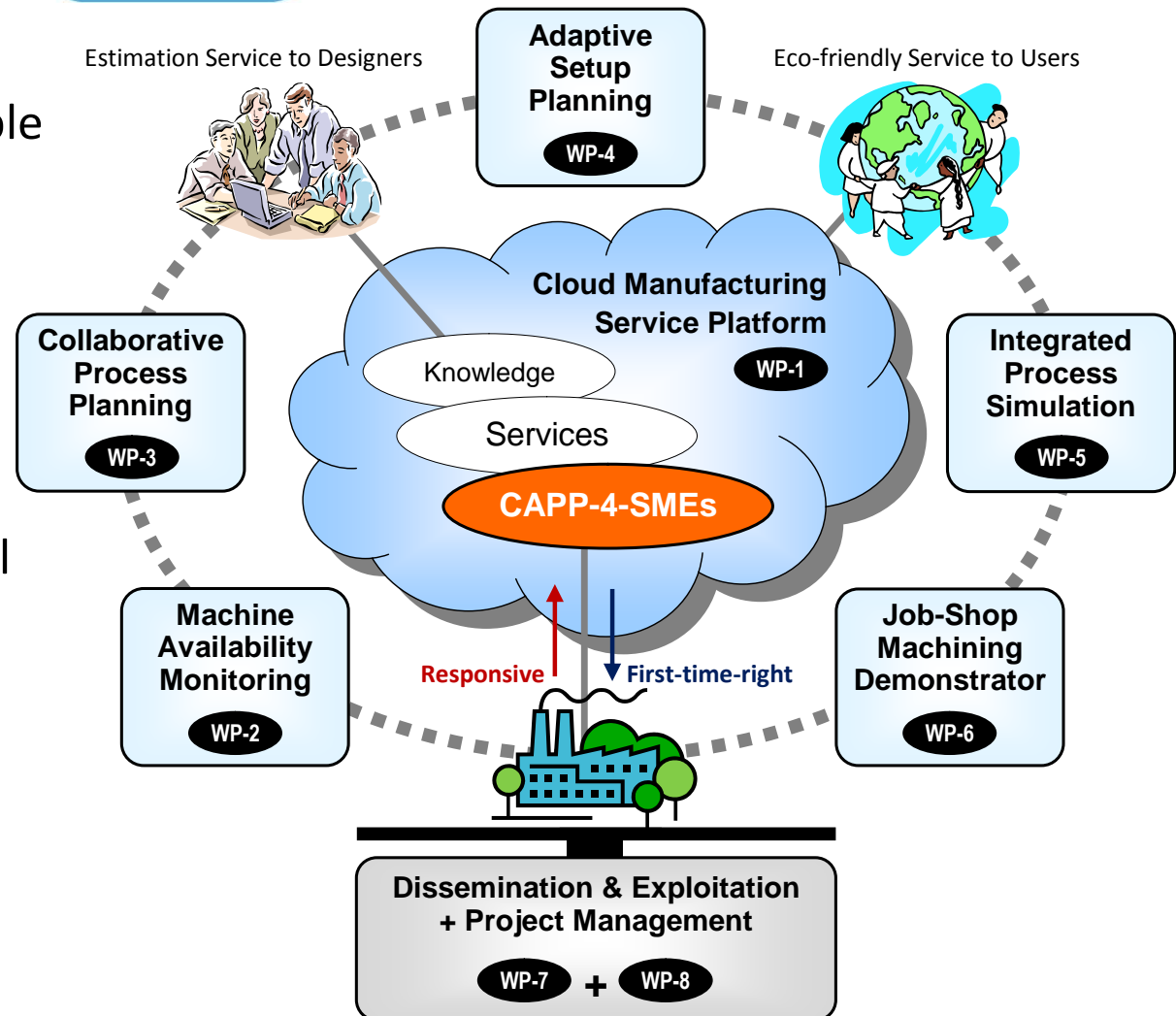
Framework for Risk Evaluation of GPN

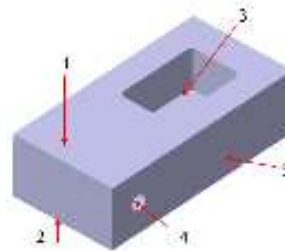
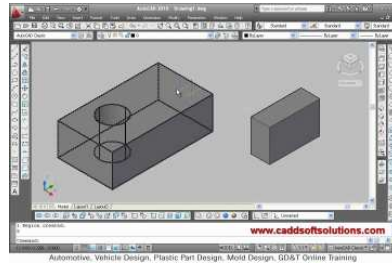


Example of Disruption to Supply Chain Operation

Collaborative and Adaptive Process Planning for Sustainable Manufacturing Environments

- Knowledge based process simulation service
- Function block technology for adaptive process control
- Availability & utilisation monitoring





Feature 5: FreeContourSide
 Position 100 50 60
 Rotation Matrix 1 0 0 0 1 0 0 0 -1
 Depth 60 Tol. 0.3
 Contour Rectangle
 Length 200
 Width 100
 Angle 90



Feature	Description
1	Face
2	Face
3	Pocket
4	Blindhole
5	Free Contour Side

