

Academia & Industry



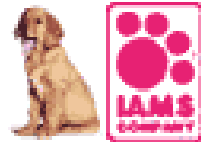
Collaboration

Oscar Rosen





CLAIROL



1. Flat SR&A

Less money in the budget



- **The value equation - $$$ = ROI$**
Research must be relevant to our Industry
- **Academia must do its homework**
- **Academia's competitors:**
Vendors, Spin-Offs, Consultants

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2. Tools need to be:

Flexible, Robust and have Good Support



- **Engineering is geared towards application**
- **Academia's competitors:**
Vendors, Spin-Offs, Consultants

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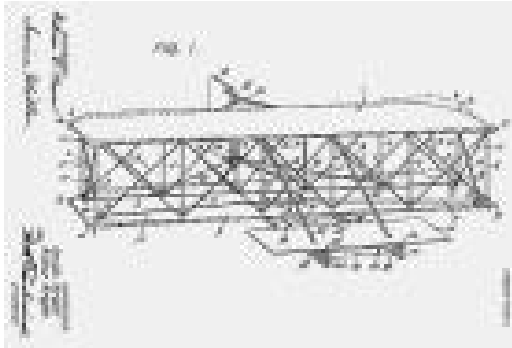
3. Skilled Champions in Decision Making Positions



- Limited internal experts in key positions
- Need to keep in contact with former students
- Create contacts

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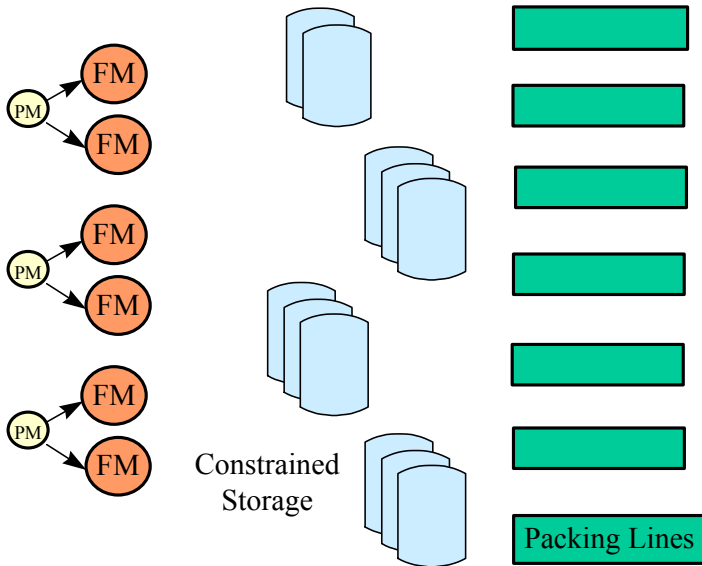
4. Intellectual property



- **IP = Protection = Strategic Advantage**
- **IP = Revenue**
- **Academia's competitors:
Consultants**

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An Example of Collaboration



- Multi-product equipment
 - ~60 Intermediates
 - >200 Final Products.
- Constrained intermediate storage
- Shared Equipment (transfers, main mix)
- Production Activities by product by system:
 - Times from 11-306 minutes
 - Dependent C/O for package and product families.
- Other Limitations:
 - Batch Splitting
 - QA time for all intermediates
 - Sanitize making equipment weekly
 - Forced downtimes - shifts & weekends
 - Maximum # of washouts/changeovers per day (environmental constraint)

Data and Description available at:

Honkomp et al. (2000). Computers & Chemical Engineering, 24, 323-328
atom.ecn.purdue.edu/~pse2000/all/authors/honkomp

