

**User innovation and firm boundaries:
Organizing for Innovation by users**

***Reframing the role of lead users in radical
innovation using an open innovation perspective***

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See lead user interaction in the
context of value creation and
value appropriation

Value creation: Technology has no value in itself



- * **DYNEEMA: DSMs strong fiber** (20 times stronger than steel)
- Customers are not interested in technical characteristics of the product
 - Translate **product characteristics** into sales arguments
= show value of the product in the customer's value chain
(e.g. Dyneema in fishing nets: stronger, smaller twines, less resistance, less fuel costs, OR higher speed, higher fishing productivity)
 - Make sure you can convince the whole value system
the final customer

Dyneema's technological features and value creation in different applications

	Strength (on weight basis)	Low weight (floats on water)	High modulus, low elasticity	Resistance to moisture	Impact resistant (high energy absorption)	Abrasion resistant	Chemical resistance	UV-resistant	Heat-conductible	Cut resistance
Ropes	✓	✓	✓	✓		✓		✓		
Nets / fishing lines	✓		✓	✓				✓		
Personal armour		✓			✓					
Sportswear		✓				✓			✓	✓
Filtration in food & chemical industries	✓						✓			

Dyneema applications

Ropes



Fishing nets



Bullet proof vests



Medical devices

Dyneema : Starting a screening process

Can it be done?

Is Dyneema the right fiber for you. Is what you want technically feasible?

Is it a winning solution?

The application should be a leading one. We'll help you identify all the benefits of your Dyneema application.

Is there a market for your application?

Is there really is an end market for your application in the interest of both your business and DSM?

Is it worth it?

Consider the implications in terms of R&D investment and marketing, and whether your market is big enough to justify all this.

Value capturing / appropriation

- Lead user interaction is necessary to detect what how value can be created: you have to know his value chain activities
- Knowing the value chain of the lead user implies you know his cost-structure
- Maximize your profits using "value based pricing"
- Conclusion: dark side of LU-interaction

Lead user interaction is a
dynamic process with different
stages

A simplified model

Lead user interaction is a dynamic process

Opportunity recognition in the early stages

Value creation and value appropriation in the late stages

BM development

Different cognitive frameworks:

Dyneema:

- Strength per unit weight
- Smaller twine diameter

Bargaining position of LU?

- other lead users with whom the innovator can collaborate
- role of the lead user in developing the market
- role of the lead user in establishing the value network
- lead user is a major customer
- cost structure is unknown to the innovating firm
- ... but win-win situation: VA and joint VC are interrelated

Laser technology applications : Micabs



Packaging: synthetic corks



Animal Identification



E&E: MCBs and connectors



**Cable, wire and tubing
Packaging: bottles**



Packaging: film and laminates



Plastic caps & closures



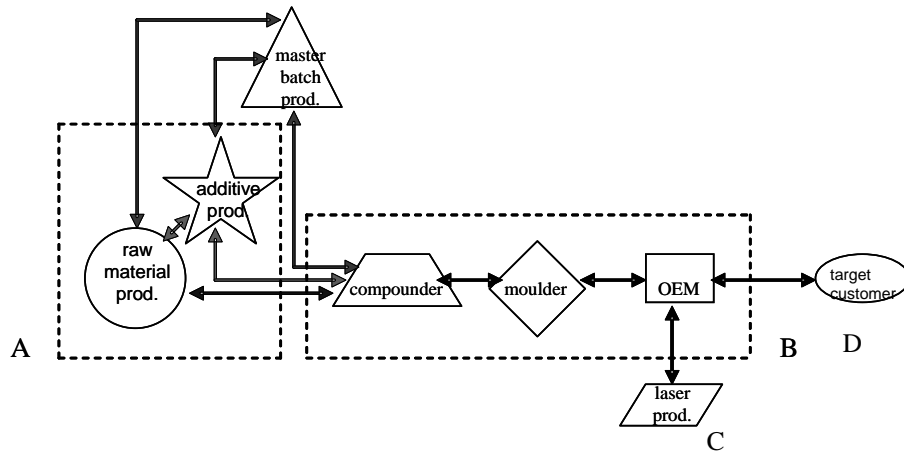
Silicone keypads



Security and credit cards

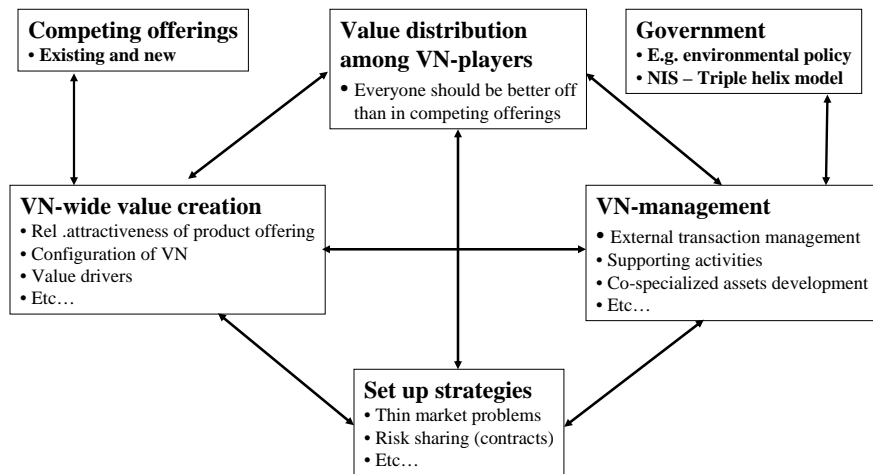


Laser technology applications : Micabs



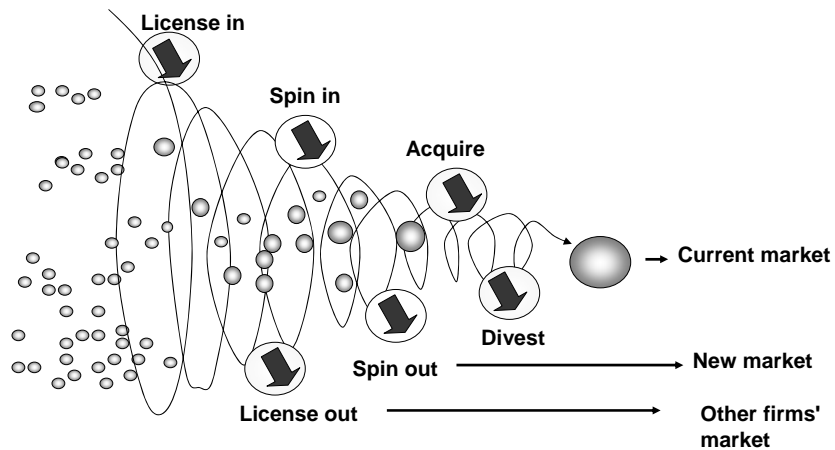
Adapted from Vercauteren (2007)

Analyzing value networks



How open innovation
makes lead user interaction
more complex?

Open innovation funnel



Robert Kirschaum, DSM: Research & Technology management, July – August 2005

OI and consequences for lead user interaction

- Exclusive focus on a successful product introduction is no longer the case
- IP-licensing, spin outs, are other potential outcomes: profound impact on the return of the cooperation for the lead user
- Lead user may also be acquired
- LU will have to negotiate up front about the different possible outcomes/scenarios