



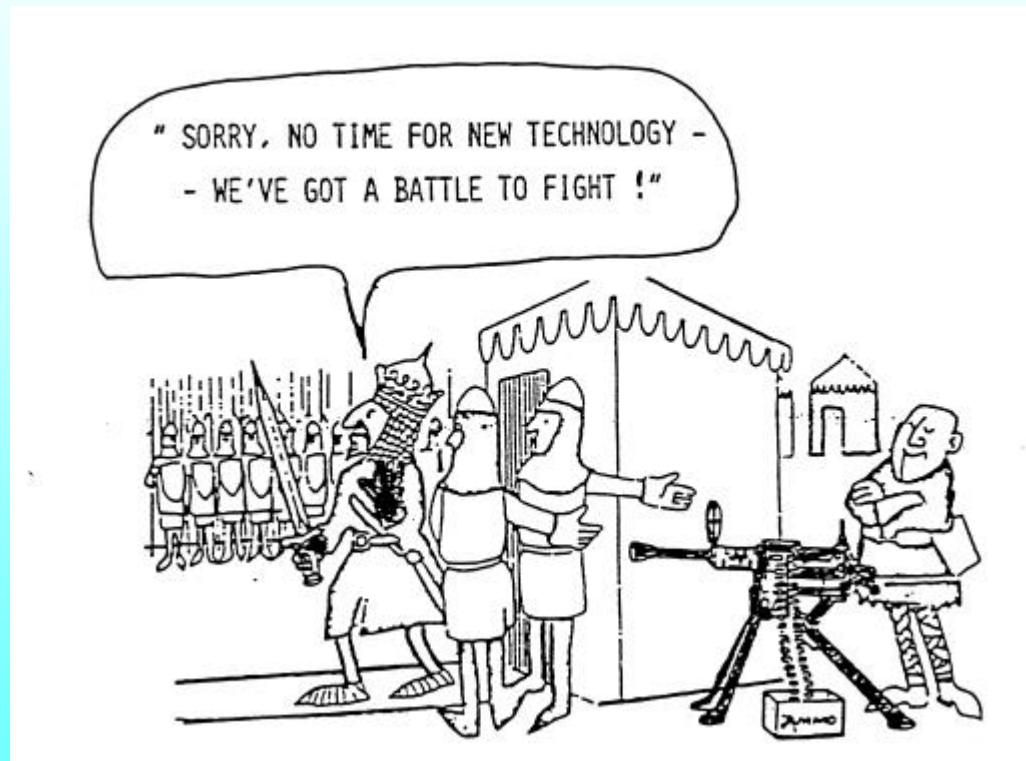
Innovation Management Issues and Ideas

A Chemical Supplier's View

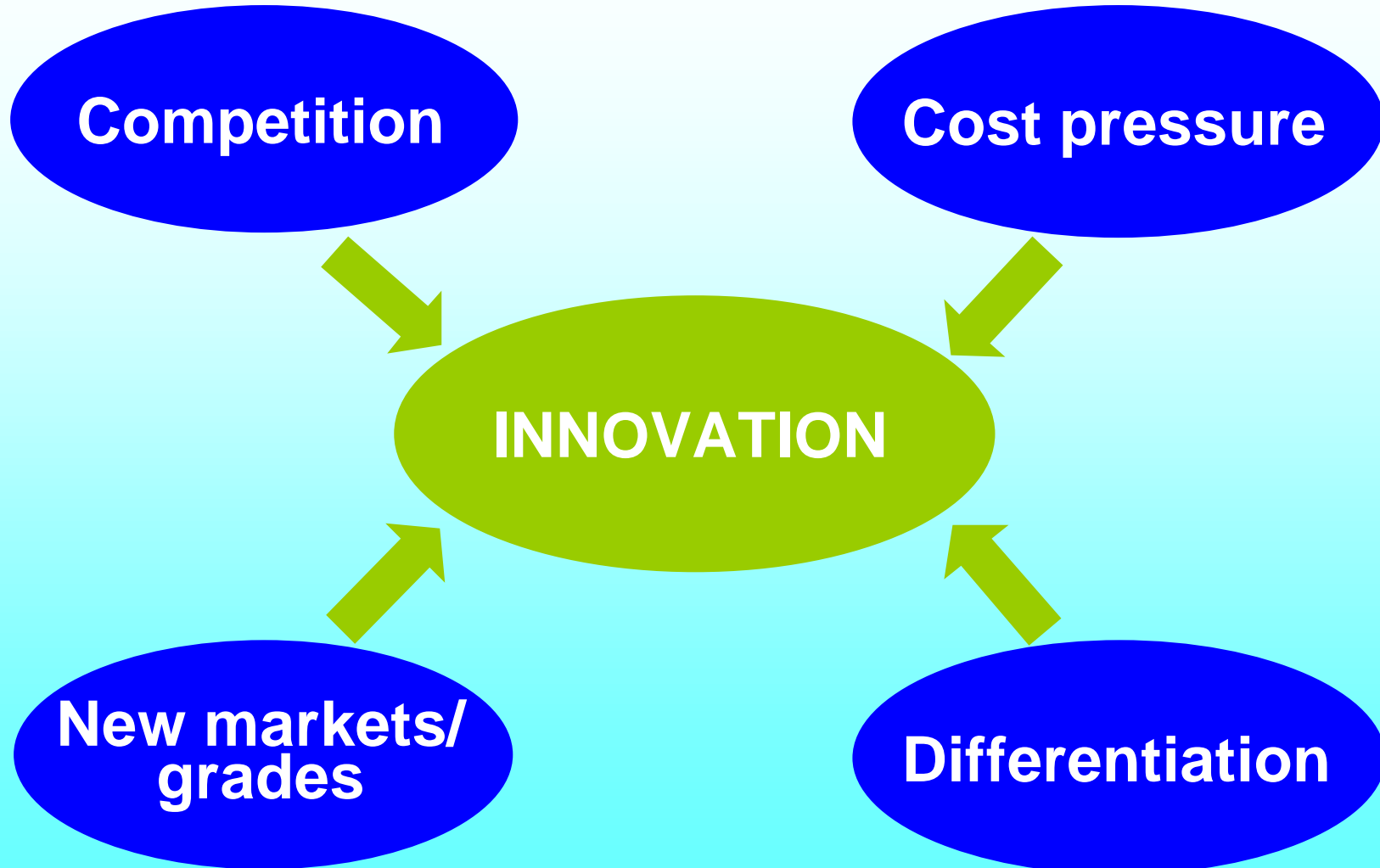
Fritz Herren

Head R&D Water & Paper Treatment Segment
Ciba Specialty Chemicals
Basle Switzerland

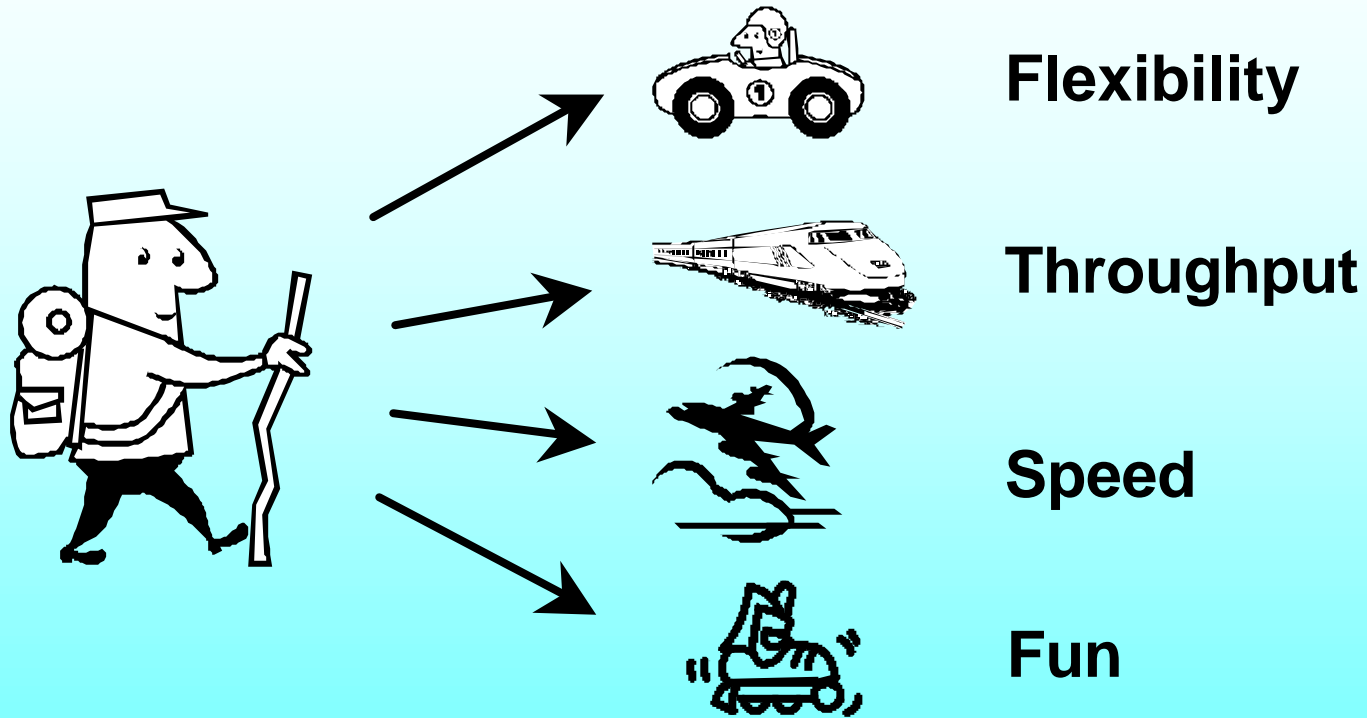
Innovation Why?



Reasons To Innovate

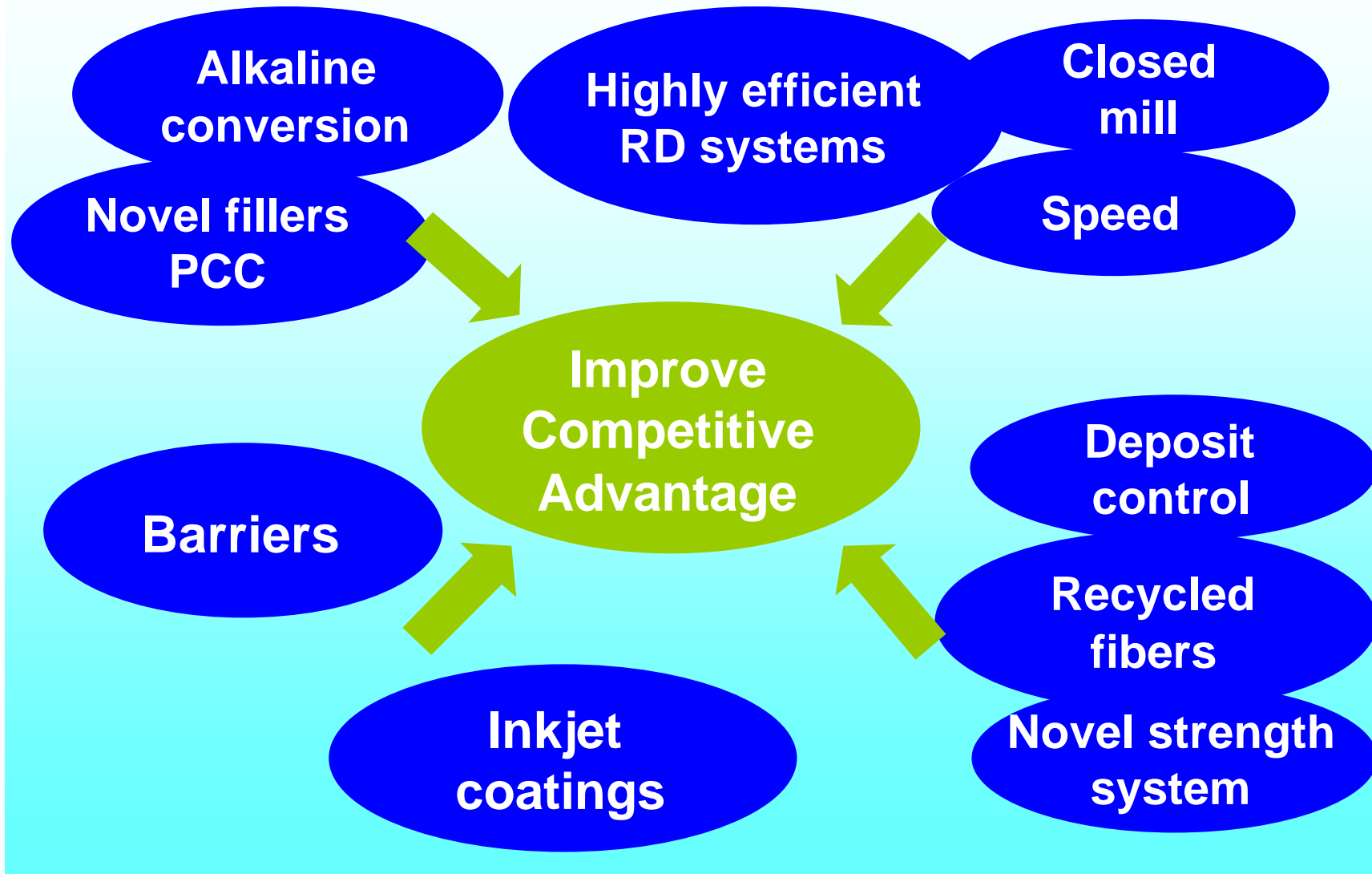


Going from A to B...



All Progress Comes From Innovation

Progress for Paper Industry



Challenge of Innovation Management

Create and efficiently manage portfolio of projects to maximize its impact on improving competitive situation (Time and size of impact)

Science is the tool – not the target

Cornerstones for Successful Innovation



Culture

Innovation Culture

- **Organization and mindset that allows, fosters opportunity identification**
- **Dedicated resources**
- **Skills, networks**
- **Accept failures**
- **Top down commitment**

Try the unknown
If the result is already known - it's no more research

Focus on Future

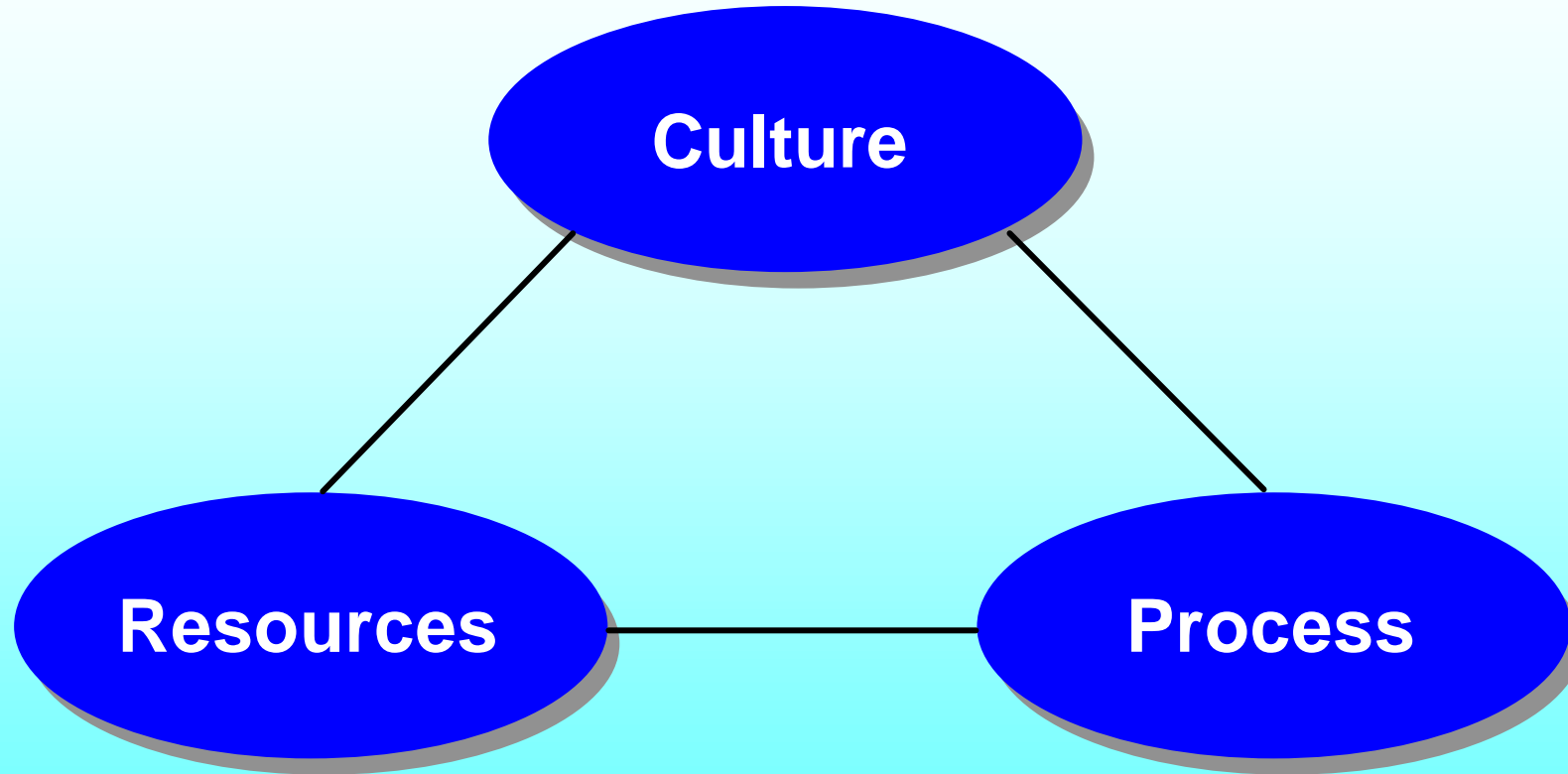


**"I skate to
where the puck
is going to be...**

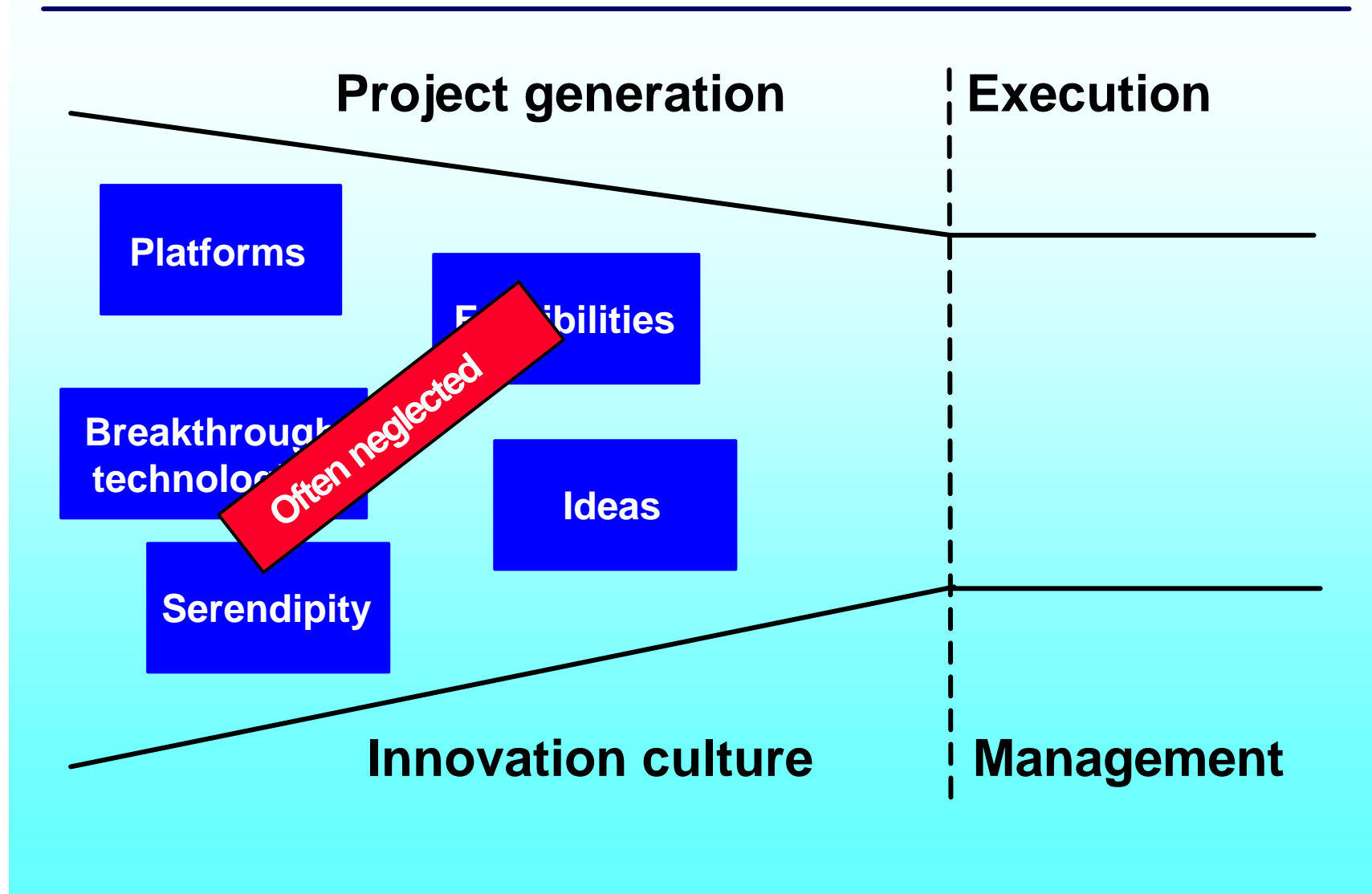
Not where it is."

-- Wayne Gretzky

Cornerstones for Successful Innovation



Two Distinct Phases



Project generation

Execution

Platforms

Feasibilities

**Breakthrough
technologies**

Ideas

Serendipity

Often neglected

Innovation culture

Management

Critical Success Factors

- **Project generation**
 - Understand customer technology
 - Understand market
 - Do your home work before project start

Link To Customer

- **Understand customer's technology**
 - Translation of customer ideas into technical approaches
- **Outcome focused customer input**
 - Define target functionality / property / performance
 - Chemistry brings product profiles that did not exist before !

By all means listen to your customer but do not expect him to tell you what you have to do

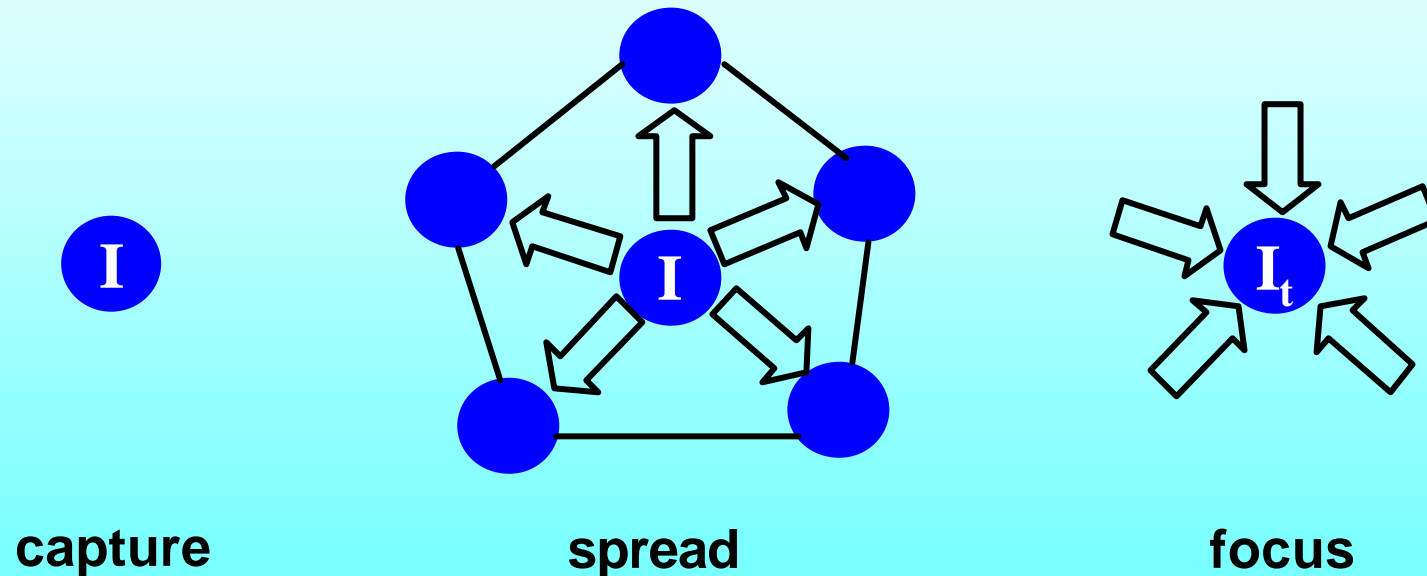
Defensive – Offensive

Need	Û	Opportunity
Market pull	Û	Tech Push
Beat competition on price	Û	Avoid competition with unique offerings
Incremental improvements	Û	Change the rules of the game

How to sustainably develop your business?

Ciba's Idea Capture Process

- Intranet based idea logging
- 2 stage filter process using global experts
- Idea enhancement before final judgment



It takes many ideas for a good project

Do Your Homework

- **Technology analysis:**
 - Fit with core competencies
 - Partnering?
 - Intellectual property, regulatory hurdles
 - Technical success probability
- **Market analysis**
 - Is the need there or can it be created
 - Early adopters
 - Commercial success probability
 - ROI
- **Project prioritization**
 - Numbers - yes, but not only!

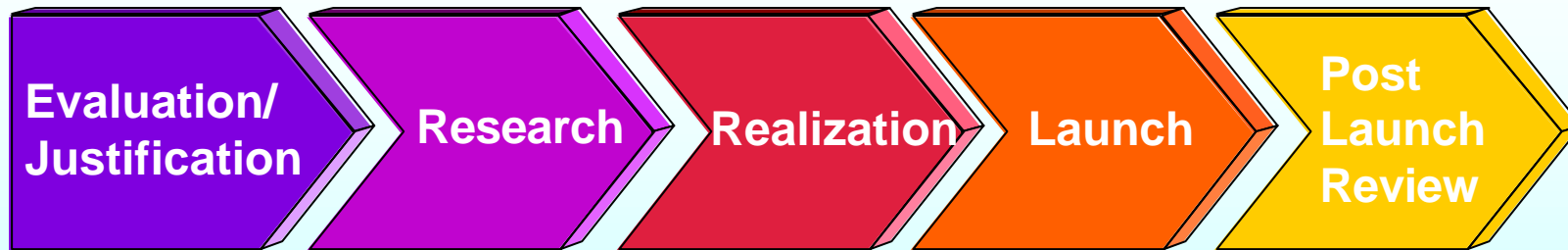
Not an R&D affair – needs all stakeholders

Critical Success Factors

- **Project generation**
 - Understand customer technology
 - Understand market
 - Do your home work before project start

- **Project execution**
 - Disciplined, structured, stage gated process
 - Never lose link with business
 - Portfolio management
 - Measure success

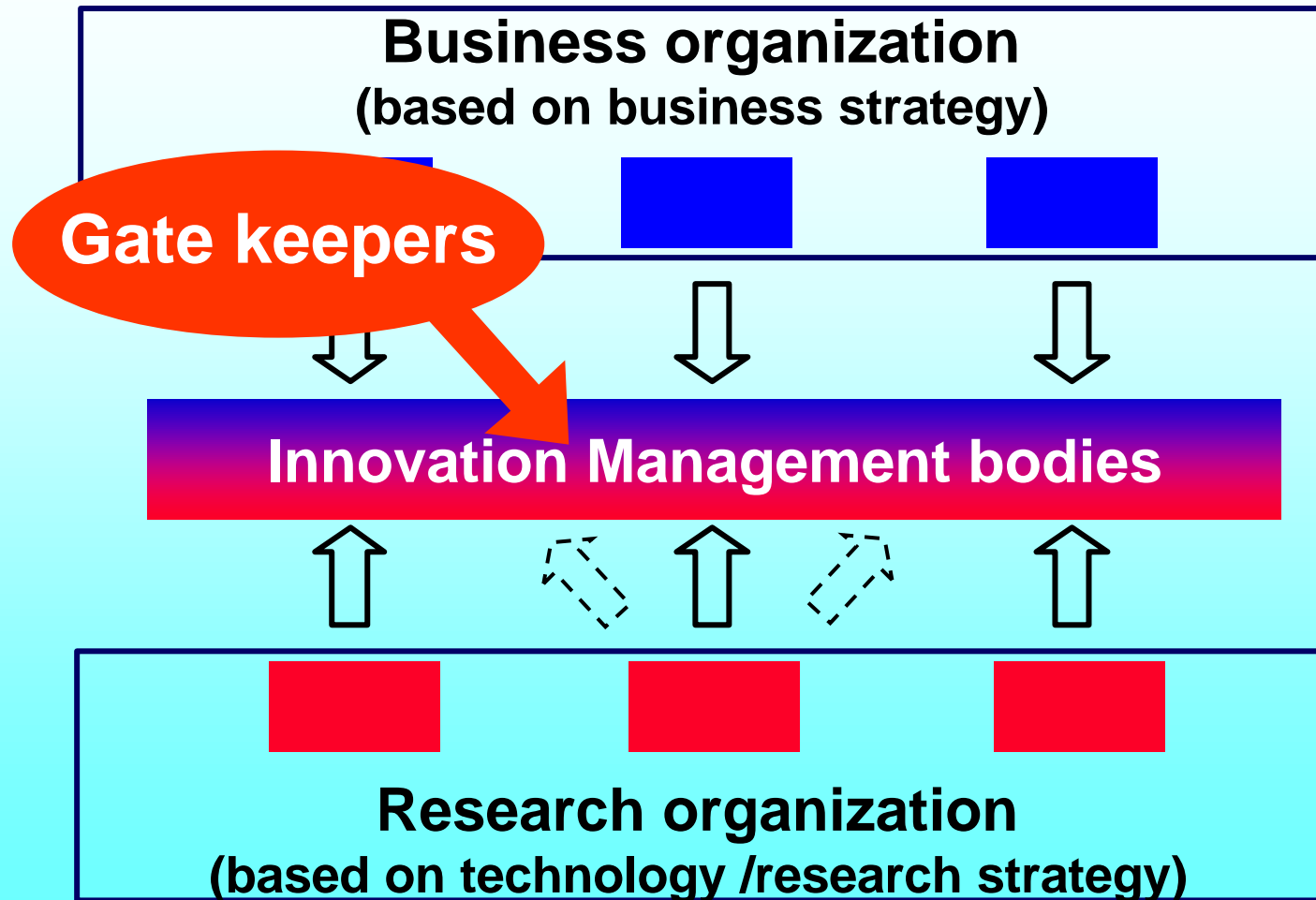
Disciplined, Structured Process



- Definition of lead technology to fulfill product profile (lab scale)
- Technical doability (scale up)
- Performance in industrial application (case histories)
- Plant introduction
- Launch product
- Communication

- Constant checks on intellectual property and product safety and registration
- Kill losers early

Managing The Innovation Process



Innovation Management Bodies

ILT

Innovation Leadership Team

- Overall New Technology / Product Strategy
- Overall resource allocations
- Gate keeper, launch decisions
- All functions represented, lead by business

IMT **IMT** **IMT**

Innovation Management Teams

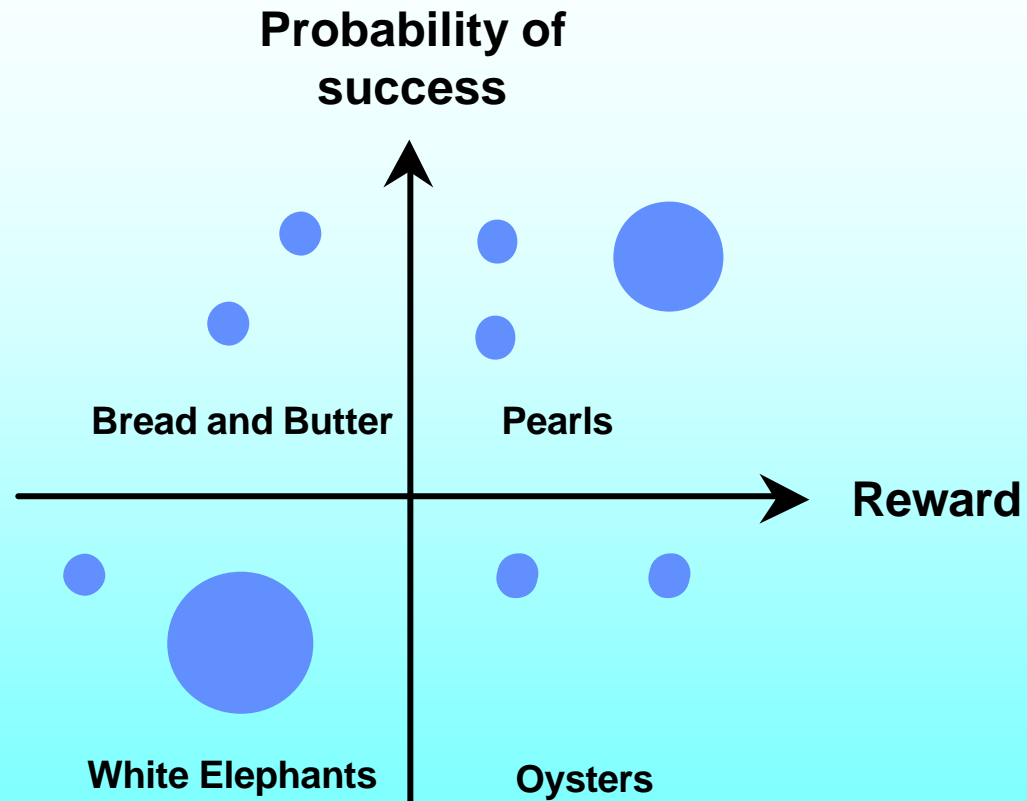
- Specific business area
- Develop and execute new technology strategy
- Manage project portfolio
- All relevant functions represented

PT **PT** **PT**

Project Teams (Ad hoc)

- One target – bring product to market
- Multifunctional, parallel engineering
- Variable composition

Portfolio Management



Never forget:

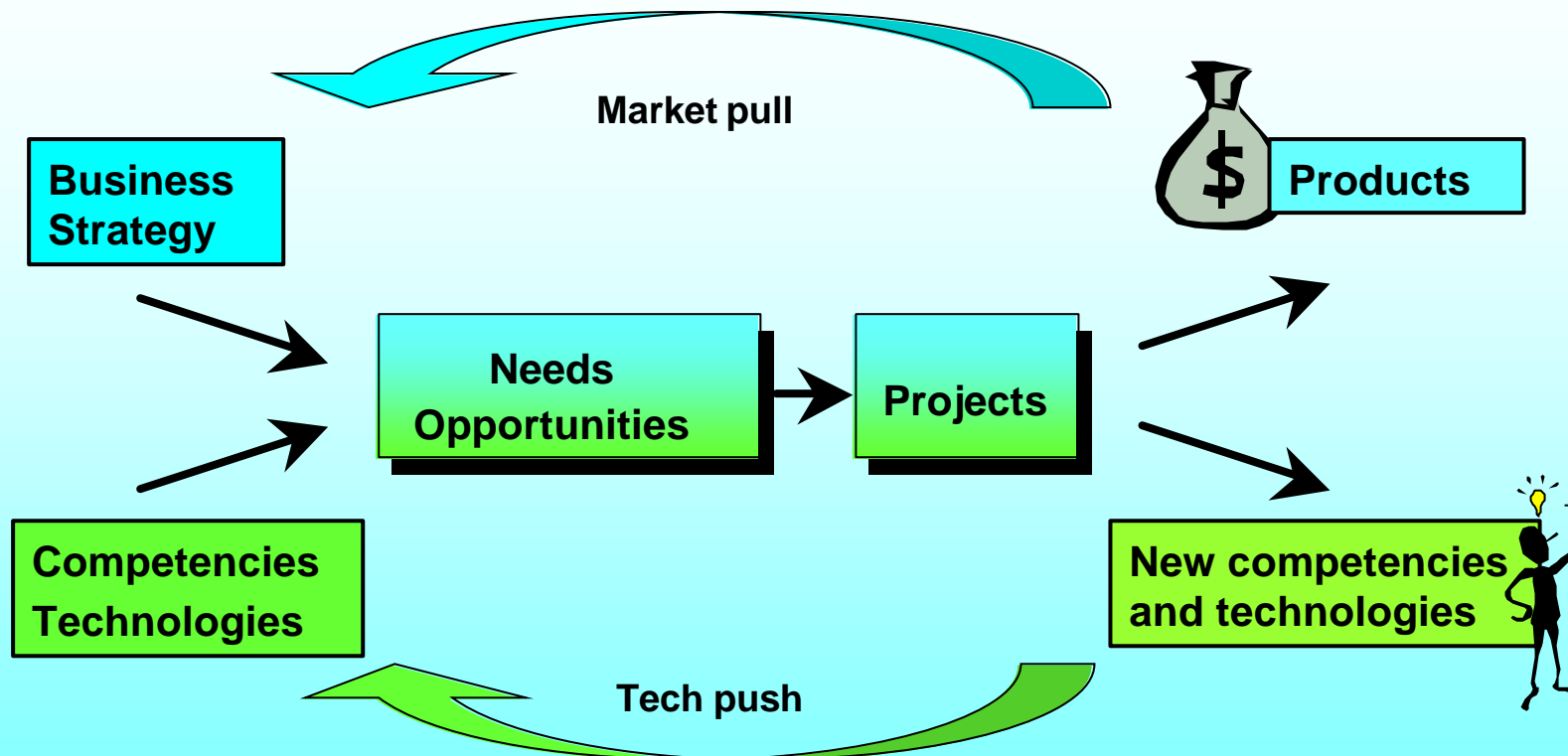
- Time lines
- Business strategy

Measure

- **Follow up in post-launch phase**
 - Validate product design
 - Market development
 - Quality, robustness
 - Cost structure
- **KPI's for research**
 - % new and innovative sales
 - Profitability of new and innovative sales
 - Patent protected sales

Only what is measured gets managed

Innovation Cycles



Innovation does not have a switch – keep it running

Innovation Case Study

Decoupling of retention & formation

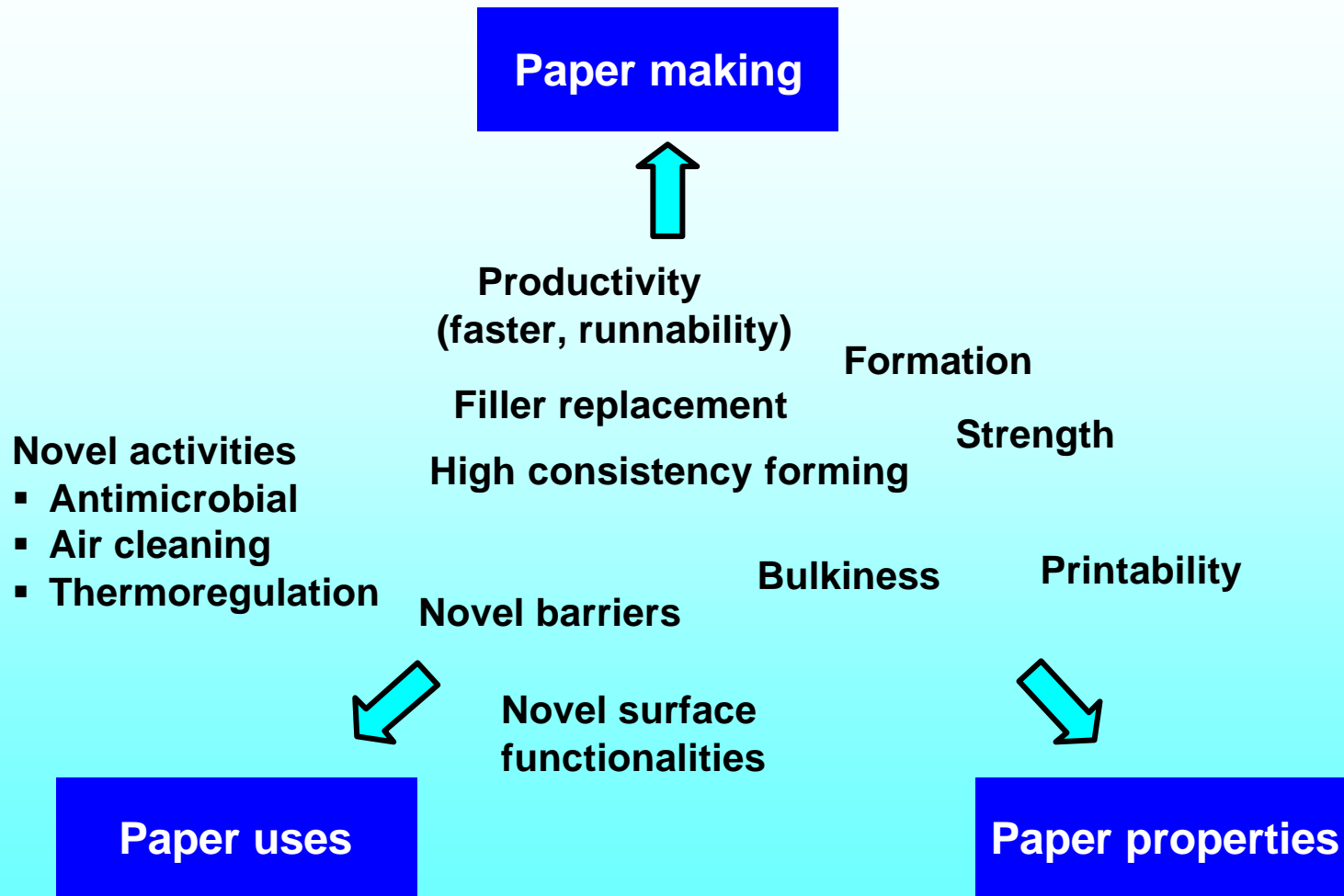
Mill Location	EU	US
Grade	Newsprint	CFS
Application	4 component RD system org/inorg microparticles	3 component RD system inorg/inorg microparticles
Benefits		
Filler Retention	32 ® 36%	35 ® 47%
Sheet Ash	10.3 ® 11.4%	8.5 ® 9%
Formation	+ 4 points	+ 6 points
Breaks	- 30%	

What does it bring...

Decoupling retention/formation	®	Flexibility
Better retention	®	Lower cost
Better runnability/speed	®	Higher productivity
Better quality	®	Differentiation

A tool to improve your competitive advantage

Why Innovate?



Concluding Remarks

- Innovation is key for sustainable business growth
- Nothing goes without appropriate innovation culture
- ‚Creative‘ front end
- Tightly managed execution phase
- Not an R&D affair – business has its responsibility too!
- Measure success
- Innovation management is not rocket science

Skills, discipline and obsession to deliver