



# **Analyzing Intellectual Property** **in Emerging Markets**

by

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A vertical strip on the left side of the slide shows a topographic map with contour lines and a yellow path. The background of the slide is a light blue gradient with faint white contour lines.

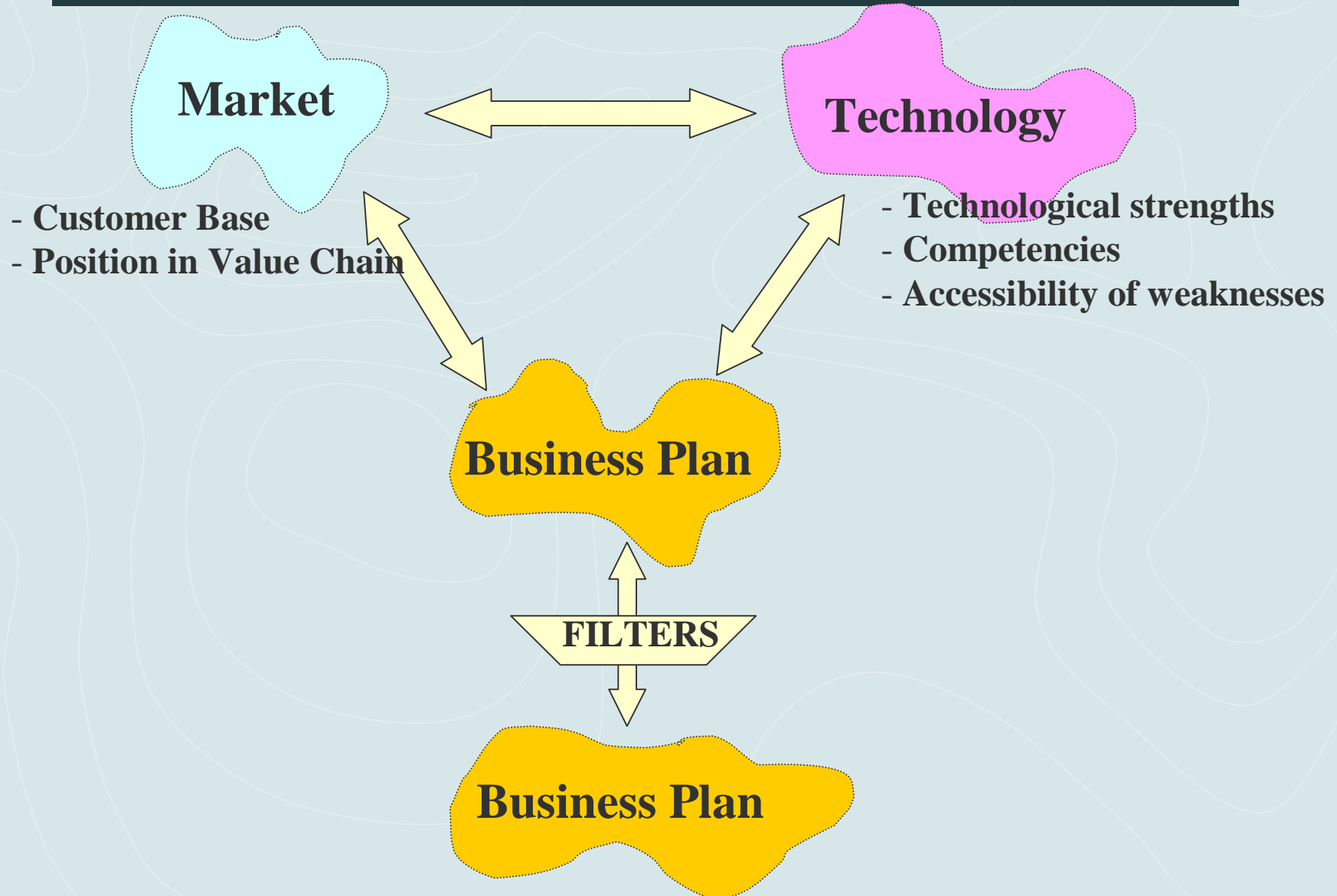
## Objectives

- Problem and Characteristics
- Retrieval and Analysis Process
- Mapping Tools Experience & the Tools we Turned to
- Needs for Better Mapping & Analysis

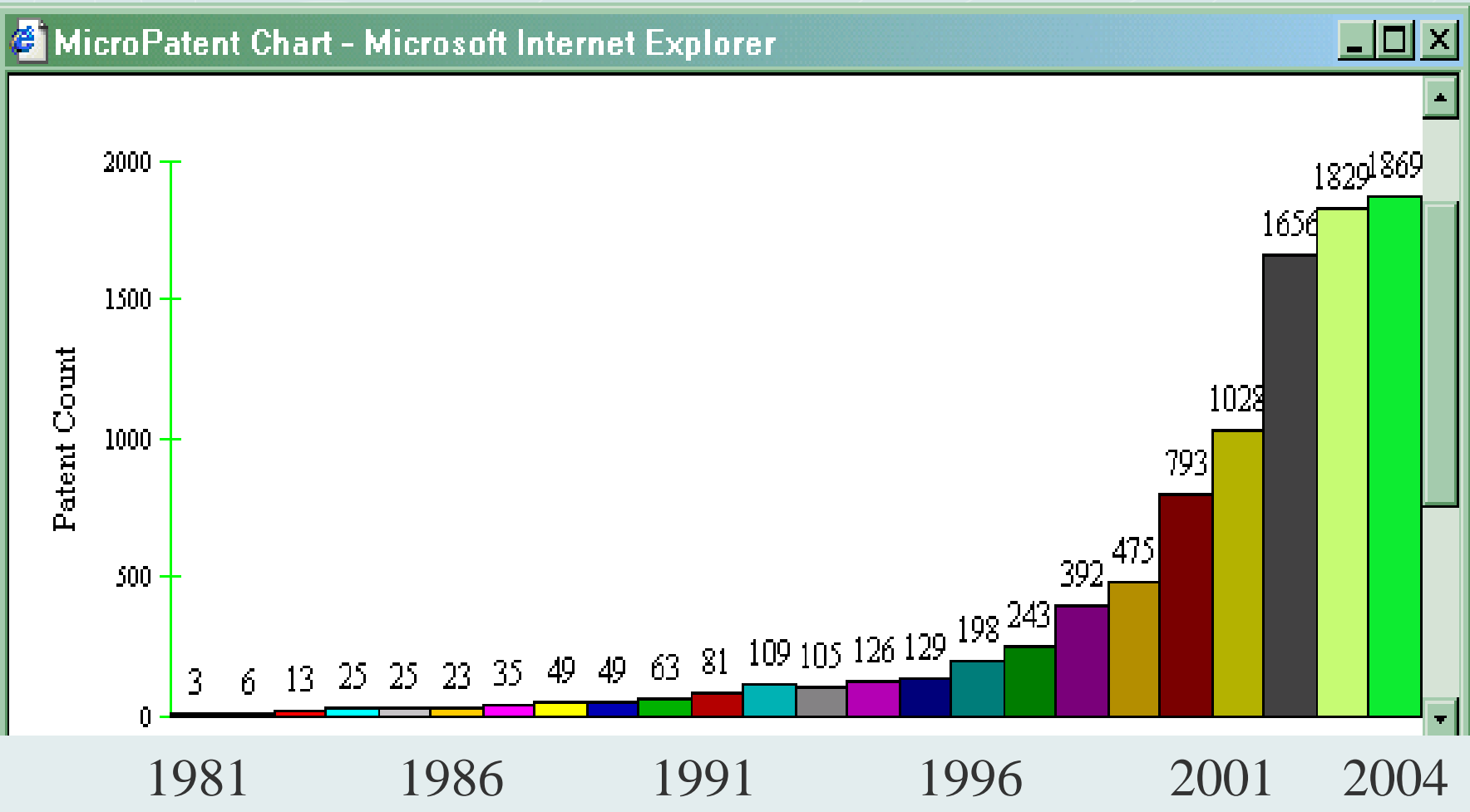
# Challenge Entering a Growth Industry

<u>Characteristics</u>	<u>Challenge</u>	<u>Opportunity</u>
Active Industry IP	Much art to analyze	IP parallels products
Major Players	Breadth-difficult to ID priorities	Market info from IP
Diversity of Players	Choosing impact technologies	License/Partners IP holes
Differentiation by Technology is high	Playing catch-up	Opportunities remain/ Profitable

# Role of IP in Creation of the Business Plan



# Growth in Ink Jet Ink Intellectual Property (Chemical Class)





## Mapping/Analysis Goals

- Define patent space for business.
- Define invention areas that drive business growth.
- Develop IP strategy to support and direct business success.

# Retrieval and Analysis Process

## Stage 1: Information Gathering

Competitive knowledge products & technologies

Our gaps vs. Competitor gaps

Patent themes of industry players

## Stage 2: Develop Trends /Predictions

Customer & competitive strategies

Market directions

## Stage 3: Build Strategies and Tactics

Technology directions to take

Barriers worth building

Disclosures and patents

ICIC 10/2005

# Retrieval and Analysis Process

## Goals of Stage 1:

- Narrow search results
- Compartmentalize / detail patents (define value / identify gaps)

## Stage 1 Activities (Information Gathering)

- |                                       | <u>Tools</u>             |
|---------------------------------------|--------------------------|
| - Deliver search result               | → Micropatent / MS Excel |
| - Compartmentalize IP by categories   | → MS Excel               |
| - Refine results / assign to database | → MS Access              |
| - Detailed patent review to database  | → MS Excel               |





# Retrieval and Analysis Process

## Goals of Stage 2:

- Define intellectual property themes / directions
- Define technology evolution
- Define market evolution

## Stage 2 Activities (Analysis)

- Download information for mapping → MS Project
- Create Evolution Maps → Pert Chart Expert
- Evolution Map Analysis → Arts & Crafts

## Tools

# Creating the Evolution Maps

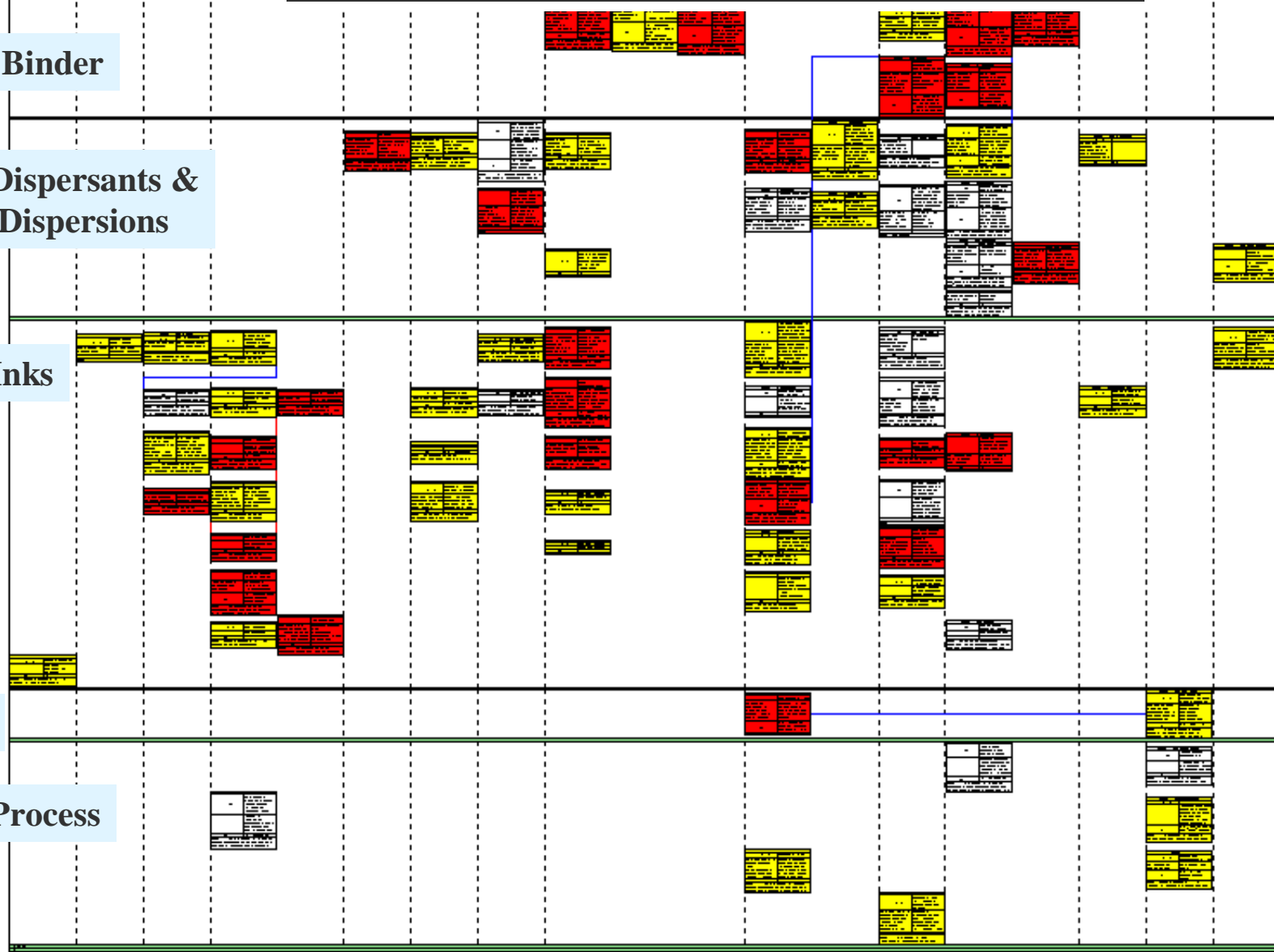
Binder

Dispersants & Dispersions

Inks

Process

Time Axis



# Creating the Evolution Maps

Title:

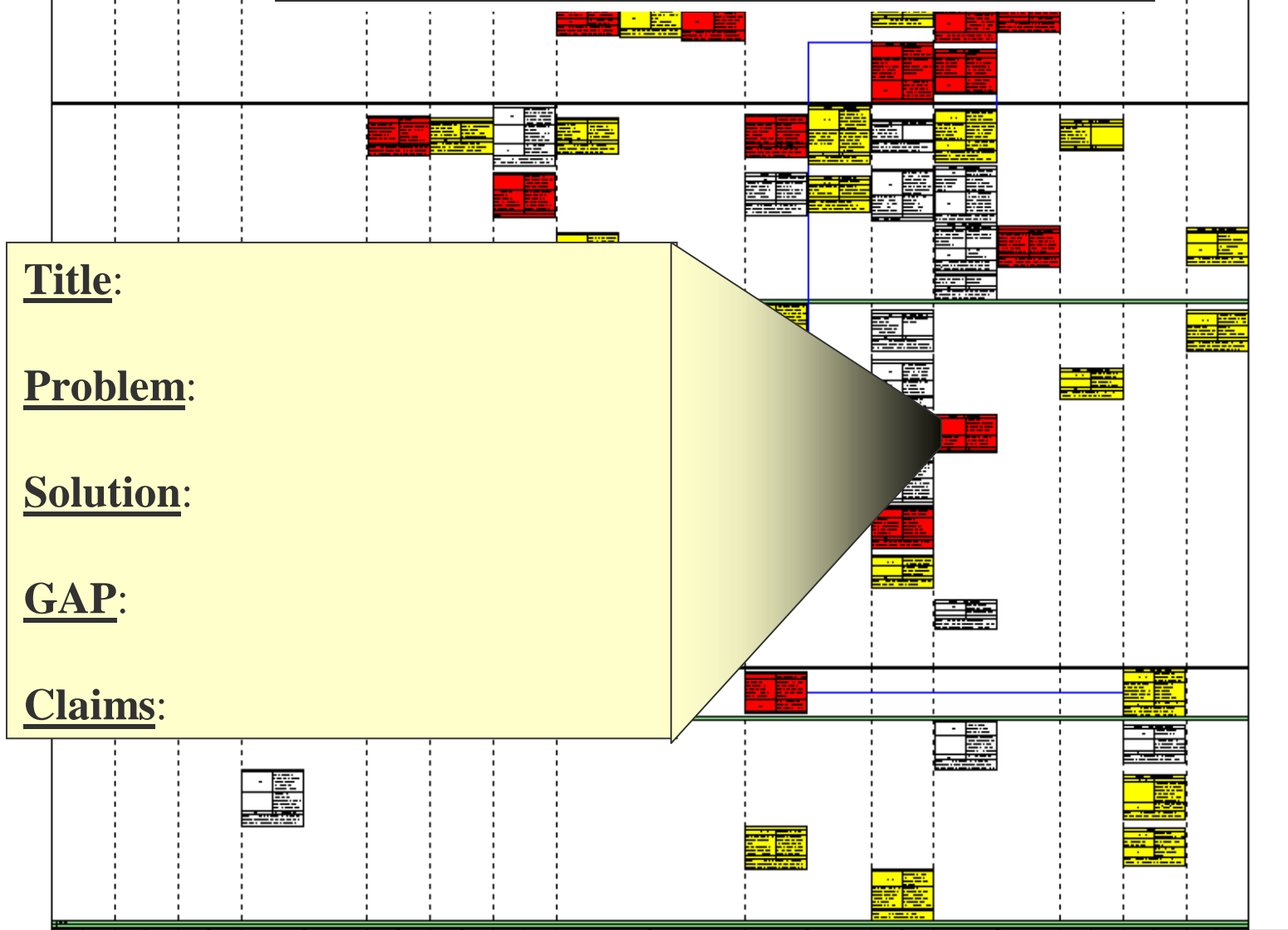
Problem:

Solution:

GAP:

Claims:

Time Axis



# Creating the Evolution Maps

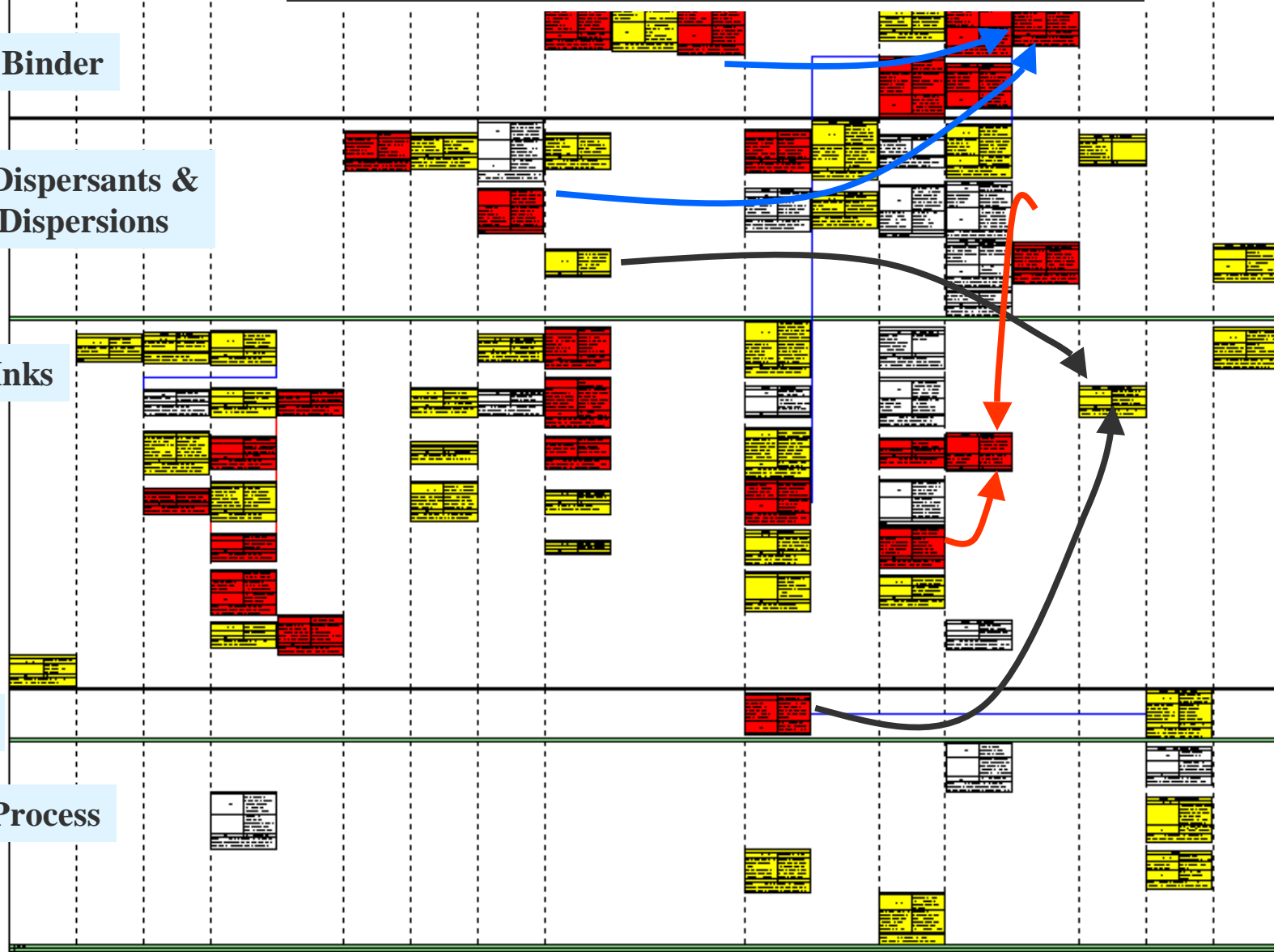
Binder

Dispersants & Dispersions

Inks

Process

Time Axis 



# Creating the Evolution Maps

Binder

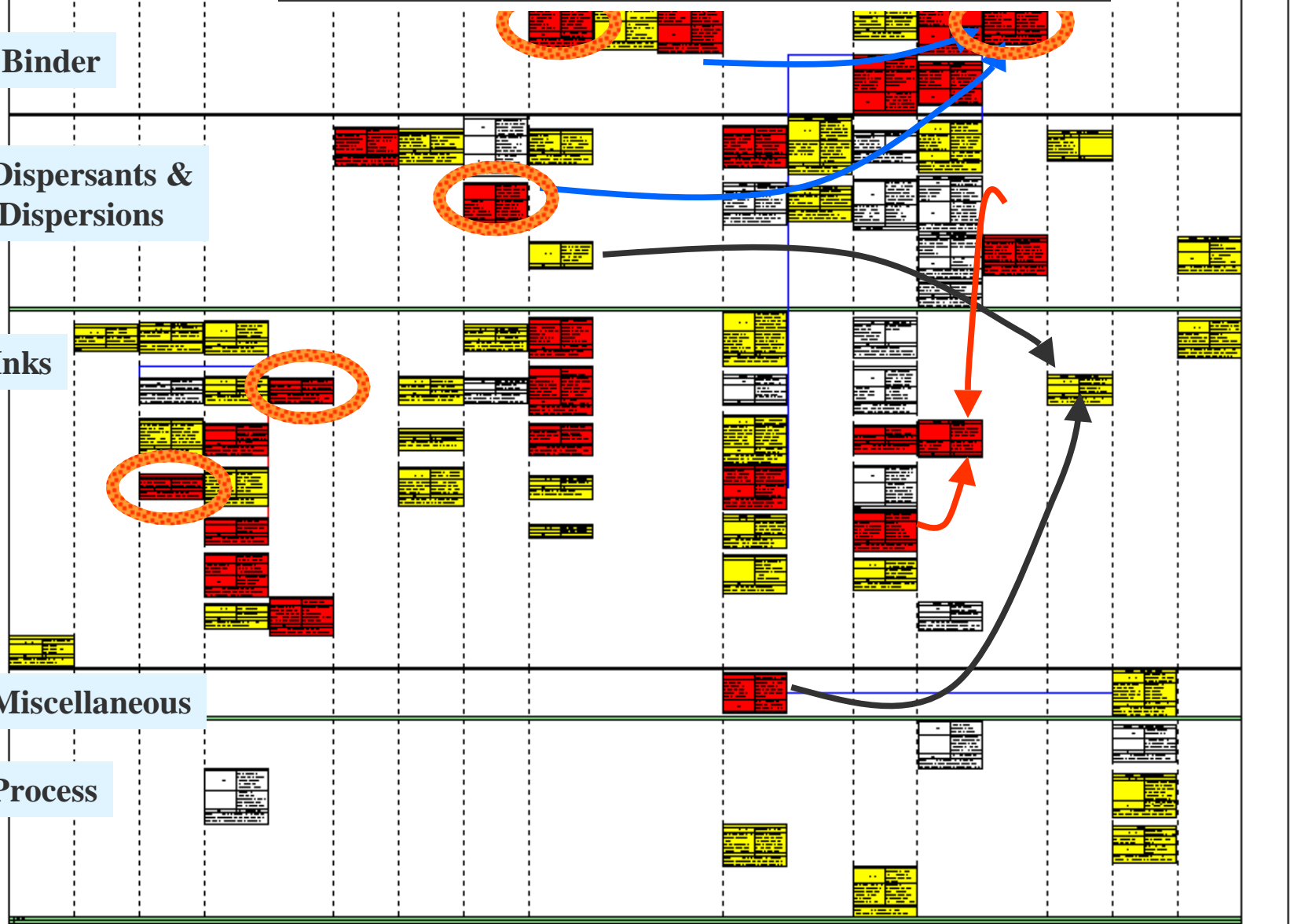
Dispersants & Dispersions

Inks

Miscellaneous

Process

Time Axis 





# Create Evolution Maps

Time →

Technologies

Solvent dyes inks

Aqueous dyes

Pigment inks

Surface treated pigments

U.V. Inks

Problems

High tint strength

Light/water fastness

High OD and image quality

Faster smear resistance

Improved archival properties

Markets

Desktop Printing

Photo Printing

Industrial Printing

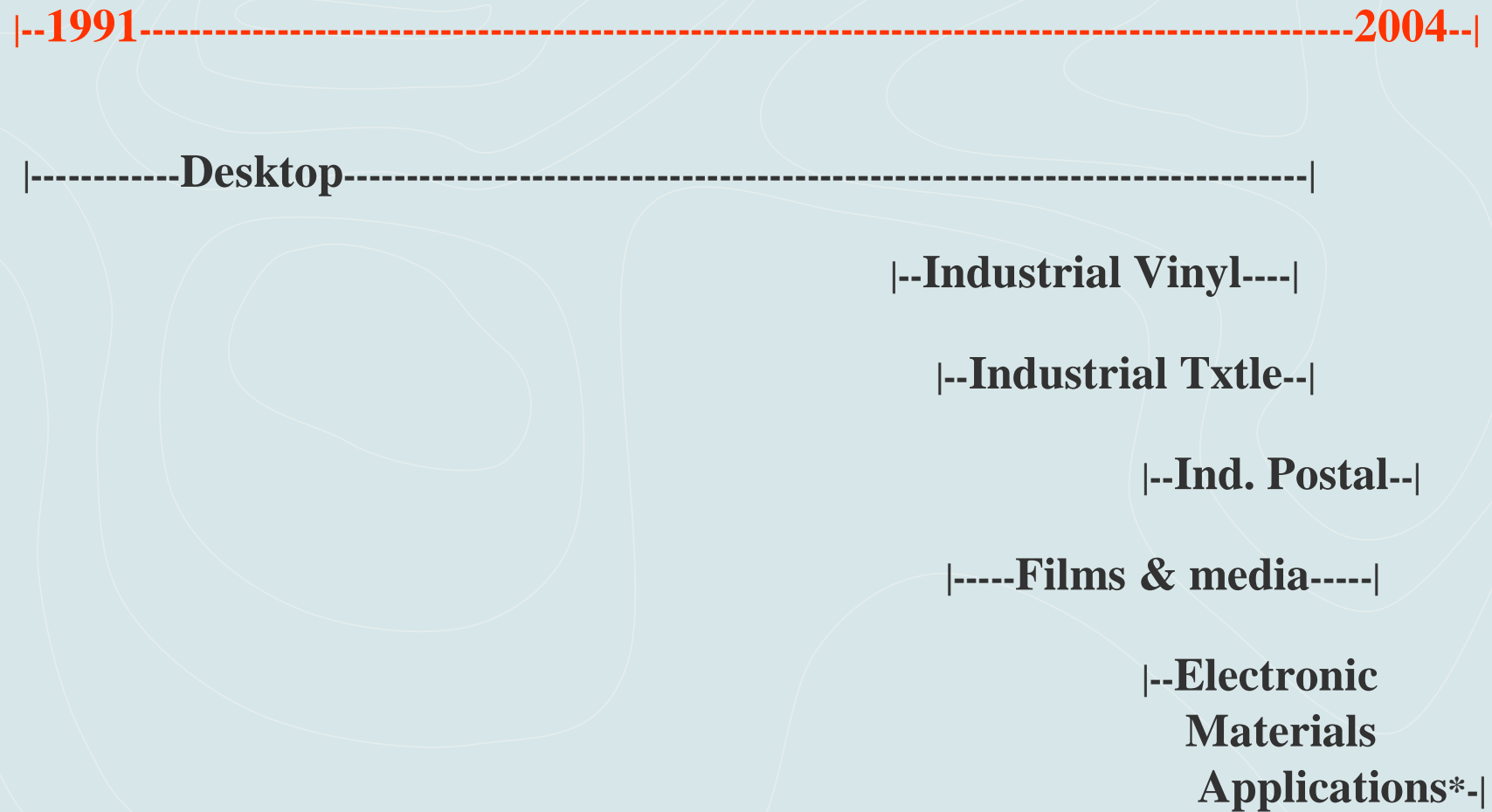
Security

Electronics

# Example 1: IP Highlight

## Market Evolution-Competitor Z

SOHO → Vinyl → Photo → Textile → Packaging







# Retrieval and Analysis Process

## Goals of Stage 3:

- Develop IP that increases business value.
- Define tactics that strengthen portfolio/compete.
- Assess market direction & company specific directions.
- Assessment of IP strategy and Business Plan.

## Stage 3 Activities (Strategy):

- Analysis of Evolution Maps with business & technology



## Applying Mapping Tools

- Micropatent<sup>®</sup>
- Aureka<sup>®</sup> / Themescape (document clustering)
- ClearForest (text analytics)
- SAS<sup>®</sup>
- Webfountain<sup>®</sup>



## Applying Mapping Tools

Micropatent →

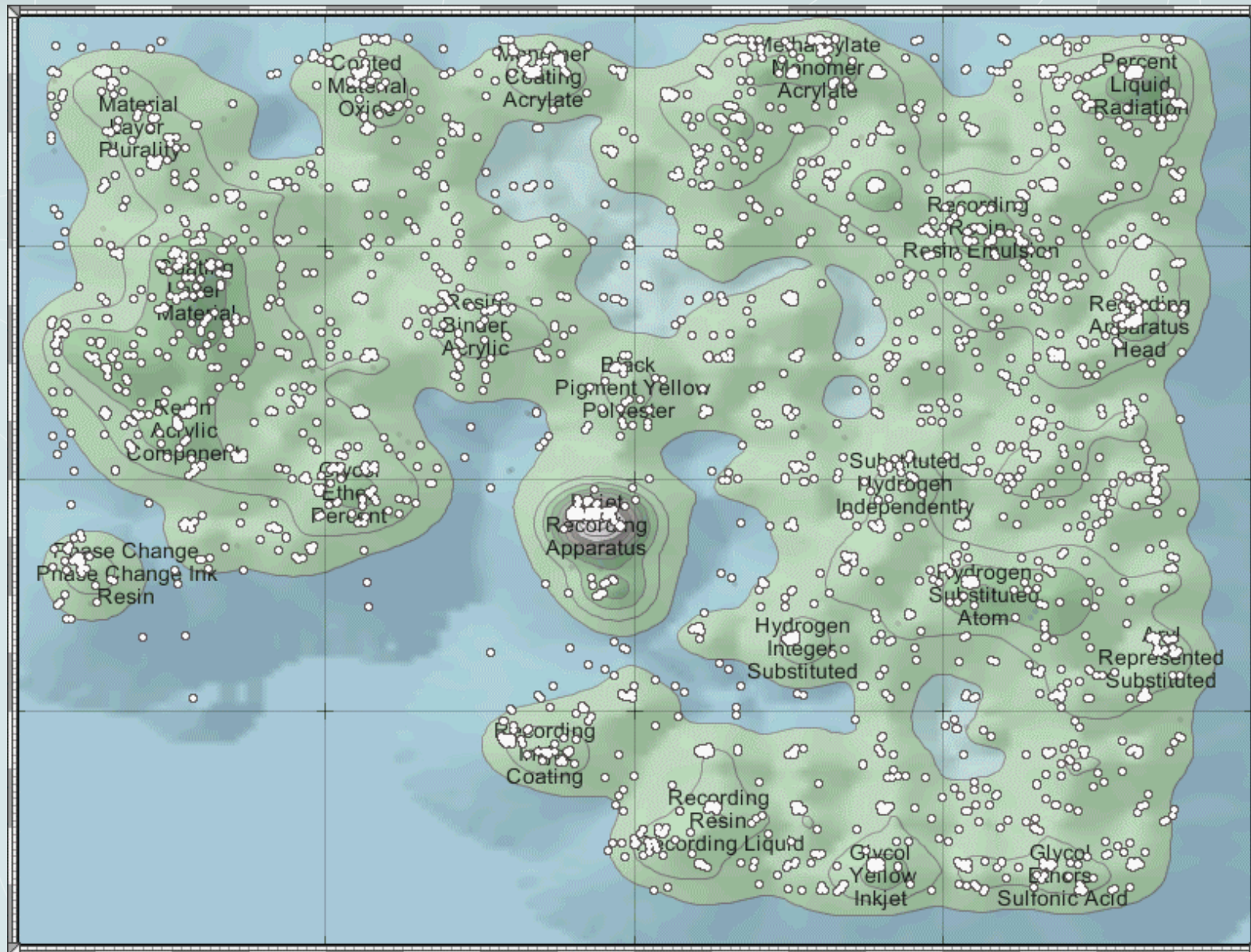
- Good capabilities for paring down target data with flexibility in search criteria.
- Claims vs full text options good for RTP vs patentability choice.
- Good export capability but would like to export to more adaptable modification friendly format.



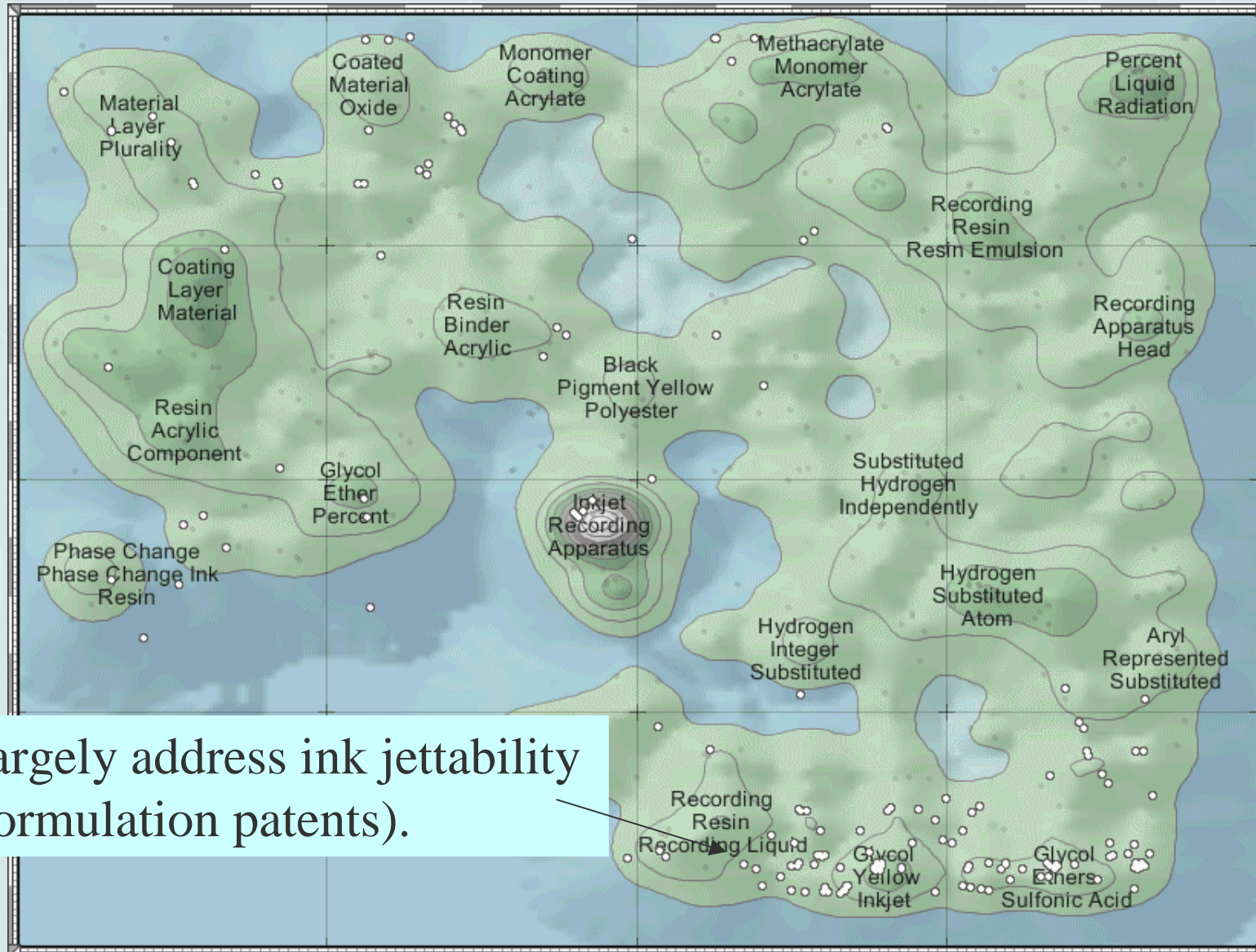
## Applying Mapping Tools

- Aureka / Themescape →
  - 40,000 foot view - allows to focus on regions of common interest but at the whim of the grouping algorithms.
  - Effectiveness limited by inability to transport maps into workable formats.
  - Need confidence that groupings generated are conceptually meaningful.

# Pigmented Inks for Ink Jet

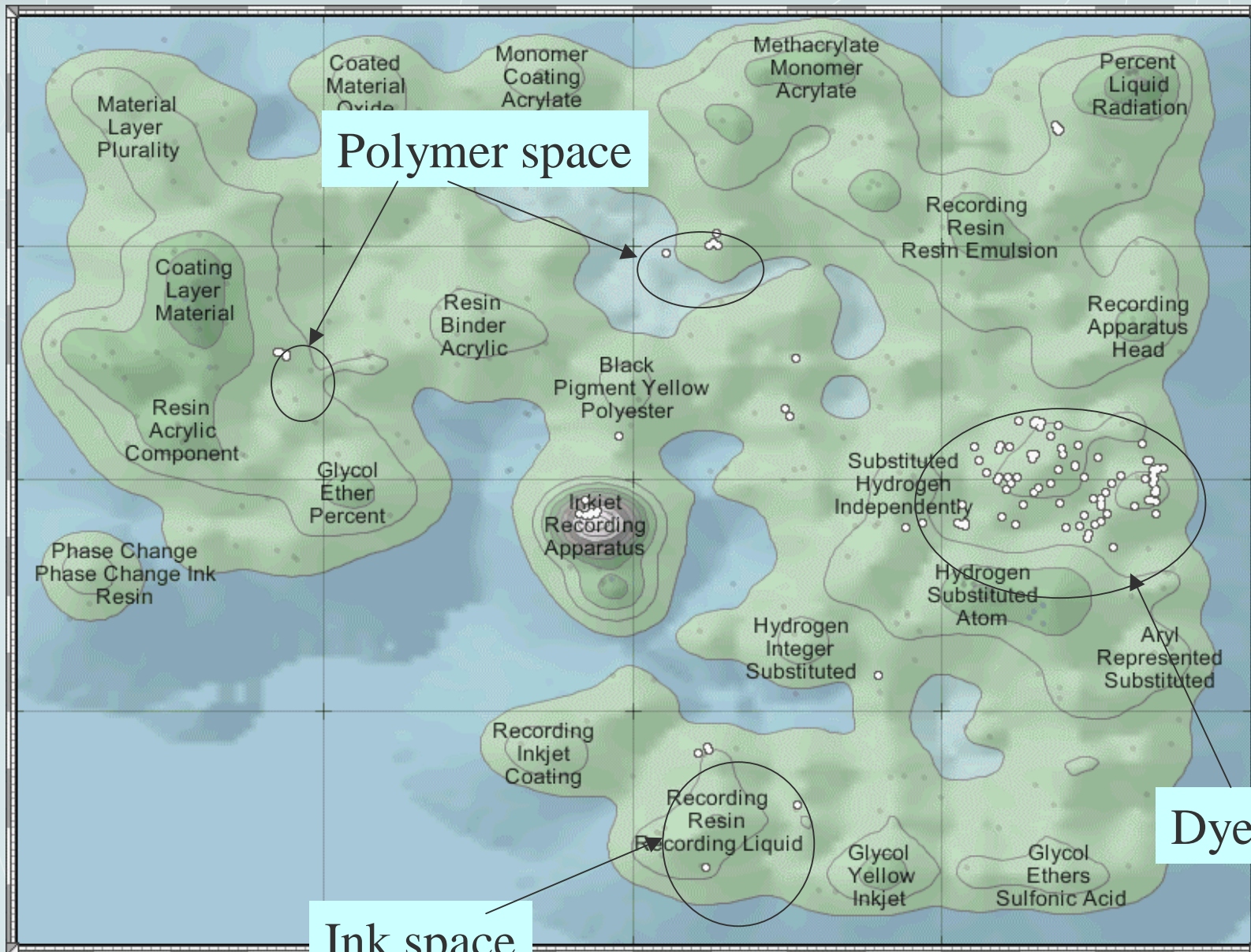


# Company A-Ink Jet Inks



Largely address ink jettability  
(formulation patents).

# Company B-Ink Jet Inks





## Applying Mapping Tools

- Clear Forest →
  - 40,000 foot view
  - Some trees, linkages and general trends but not as effective at meaningful analysis as is needed.
  - Returns not efficient enough to proceed further.
  - Lacks interactive text analytics.





## Applying Mapping Tools

- SAS →
  - Compared to problems solved - efficiency of finding relevant art was not improved.
  - Potential utility to identify long term growth opportunities but not pursued.
  - My evaluation was for more immediate search issues. Any tool must attack this aspect of retrieval and analysis more effectively than current methods.



## Applying Mapping Tools

- Webfountain →
  - Enables user interactive capability for algorithms.
  - Lacks access to full IP database.



## Thank You

- Search and analysis of IP drives business strategy and support business success.
- Search and mapping tools do a good job at some individual steps of the total mapping process.
- Integrating activities for search → analysis → mapping processes for business success is needed.