



R&D Best Practices and Technology Vision

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Technology Labs

Cem Baydar, Ph.D

(Thanks to Andrew Fano for original slides)

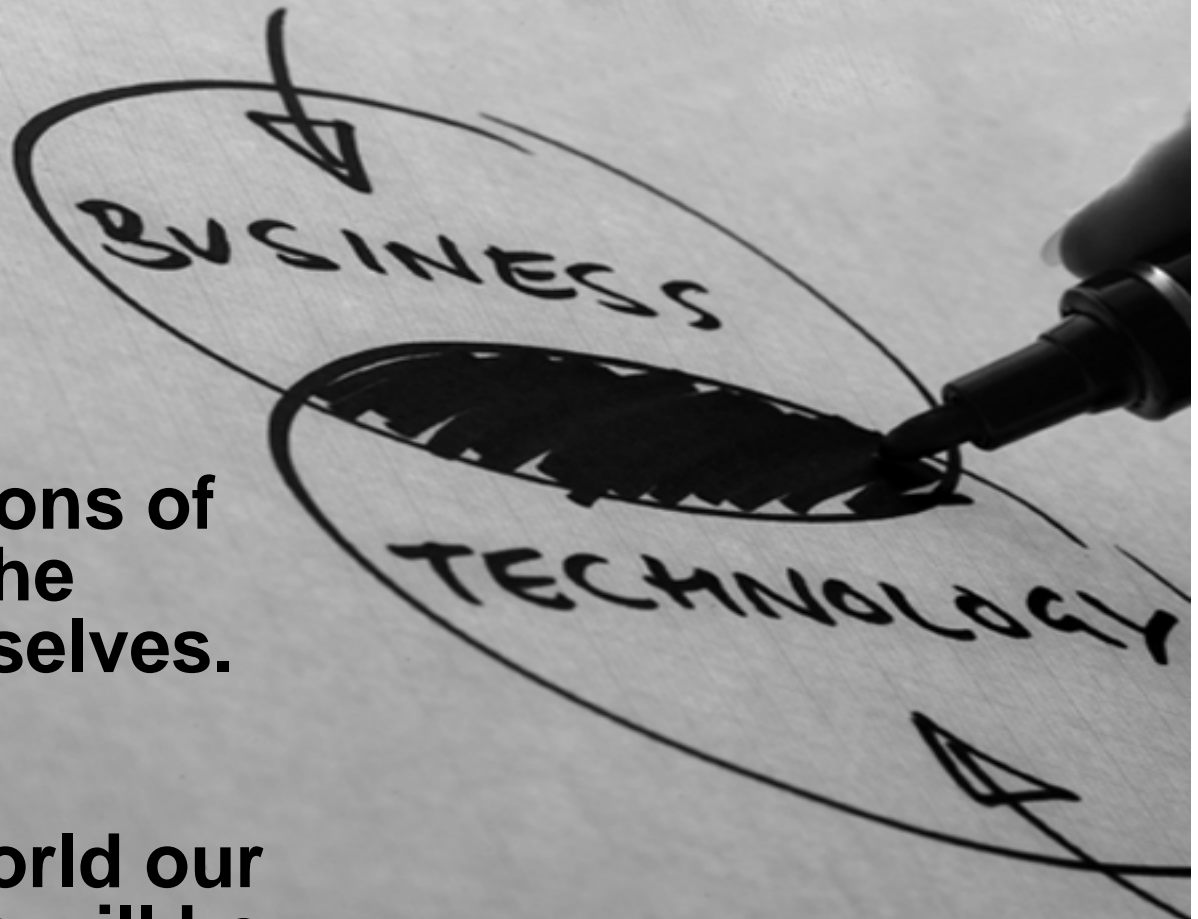
Why does a service company have an R&D Lab?

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We invent applications of technologies, not the technologies themselves.

We highlight the world our firm and our clients will be working in within 3-5 years.



Mission and objectives



- Enable Accenture and its clients to capitalize on emerging technology opportunities
- Solve difficult problems for Accenture and Accenture's clients
- Identify and incubate new practice areas

150 dedicated R&D professionals across 3 labs:
Chicago, Palo Alto, Sophia Antipolis, France

- 50 Researchers 3-5 year horizon
- 100 Development 0-3 year horizon.

The Research Project Lifecycle

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Industry Problems/Gaps



Skilled
Researchers

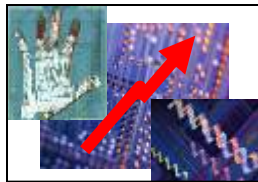


Initial Idea



Socialize Idea
(1-2 mos)

- Filtering
- Shaping



Technology Trends



- Go/no-go
- Shaping
- Sharpening
- Amplification

Propose Project

Reshape



Incorporate
Into Vision
+
Identify
Engagement
Opportunity



Socialize Prototype
(internal, external, client
workshops)

- Identify other domains



Develop Prototype
(3-9 mos)

Prototype +
business story

- Focus on:
- Technical and Business Credibility
- Demo-ability

Build Concept Cars

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No paper or study brings an idea to life like a live demonstration.



The development group has two key management functions.



Development = Idea + Technology + IP + Business + Capability

Technology Initiatives Leads

- **Manage Asset Portfolio**
 - Projects & IP
 - Asset connection & leverage
- **Maintain area PoVs**
- **'Guruness'**
- **Drive assets through commercialization**
 - Idea harvesting & refinement
 - Commercialization strategy
 - IP protection
 - Technical experts

Business Development Leads

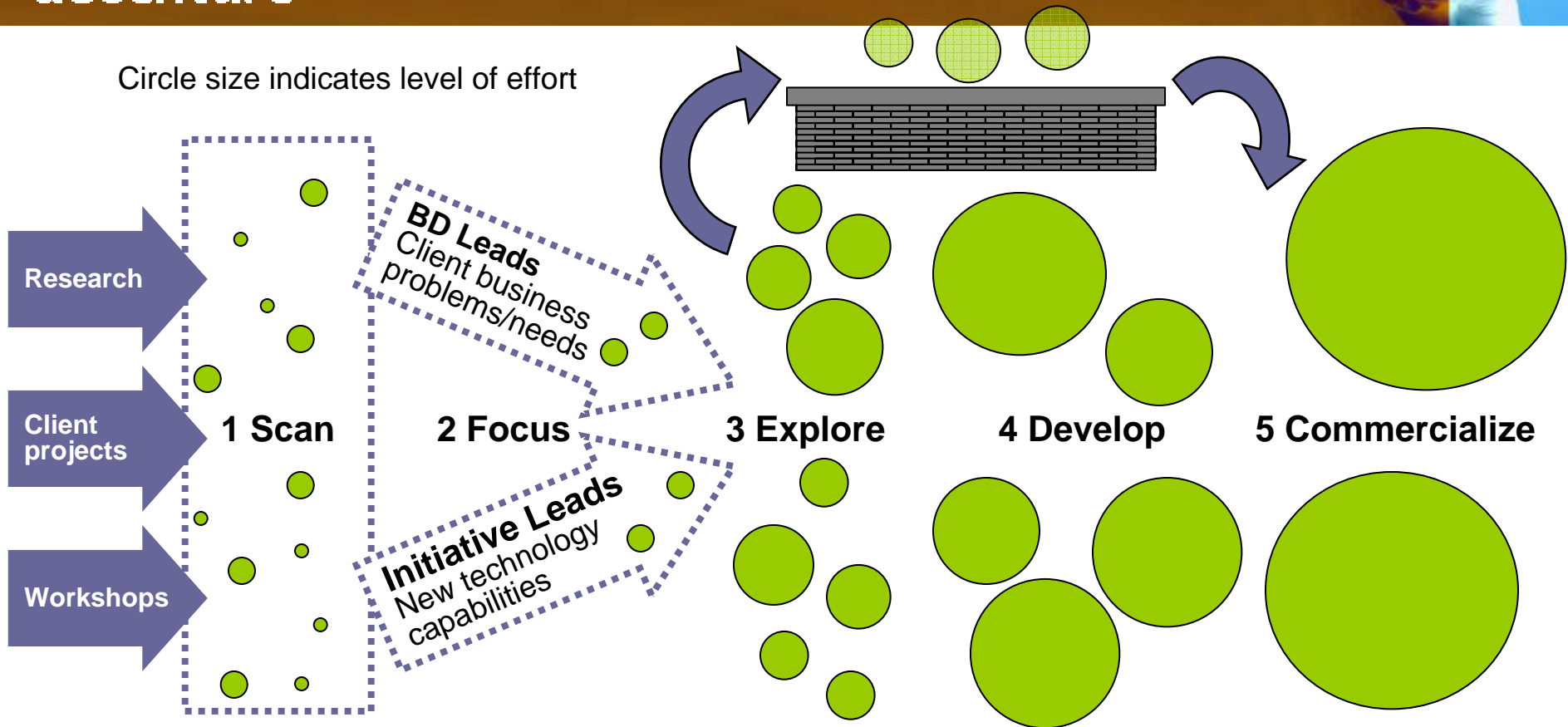
- **Ensure Business Unit Relevance**
 - Problem harvesting
 - Labs business education
- **Business Unit Connectivity**
 - Building network
 - BU Innovation Sessions
 - Market Offerings
- **Business Development**
 - Sell assets and Labs Offerings

Development Project Lifecycle

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Circle size indicates level of effort



Scan

- Search for business problems and emerging technologies in the marketplace

Focus

- Cultivate an idea that applies new technology to solve a business problem

Explore

- Build out "just enough" to get OG or SL buy in

Develop

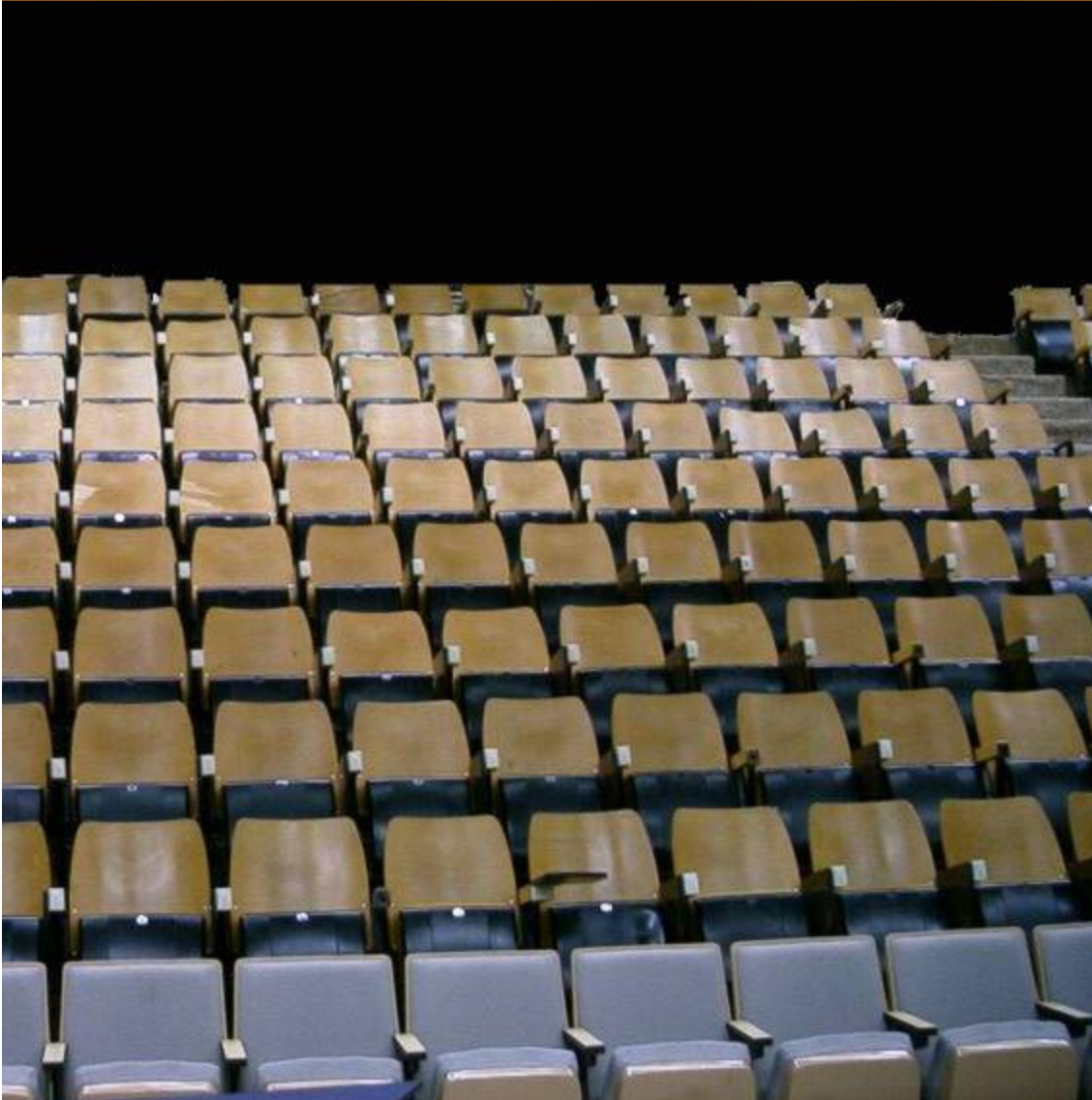
- Develop hard assets in most cases with a client and/or OG/SL investment

Commercialize

- Promote asset take up through variety of commercialization channels

If you build it, unfortunately, they
won't come. Sad, but true.

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We used to build projects,
and wait for our industry liaisons
to come knocking.

Pull doesn't work reliably.
It has to be pushed. Hard.

Business development leads
know the lab's work and know
the business units.

How do you target innovation?

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Have I got a deal for you...



Instead of selling your proven services,
how about risking your client relationship on this
weirdo thing we've never deployed, oh, and
we're not entirely sure it works?

Come on!! It's Innovative!!!

Best Practices Summary



Research



Socialize new ideas early, to multiple audiences.



Intellectual risks from the leadership creates “intellectual room” – and challenges - for the lab.



Bring ideas to life through “concept cars”.

Development



Push innovation through Integration to business units.



Don't fight success, find individuals with something to prove.



Get buy in to ensure commitment.



Reality Online is our ability to sense the world in real time, represent that world in systems, and take action



Reality

Idle Alert - Empty Railcar

Car Information

Load: 10,100 lbs

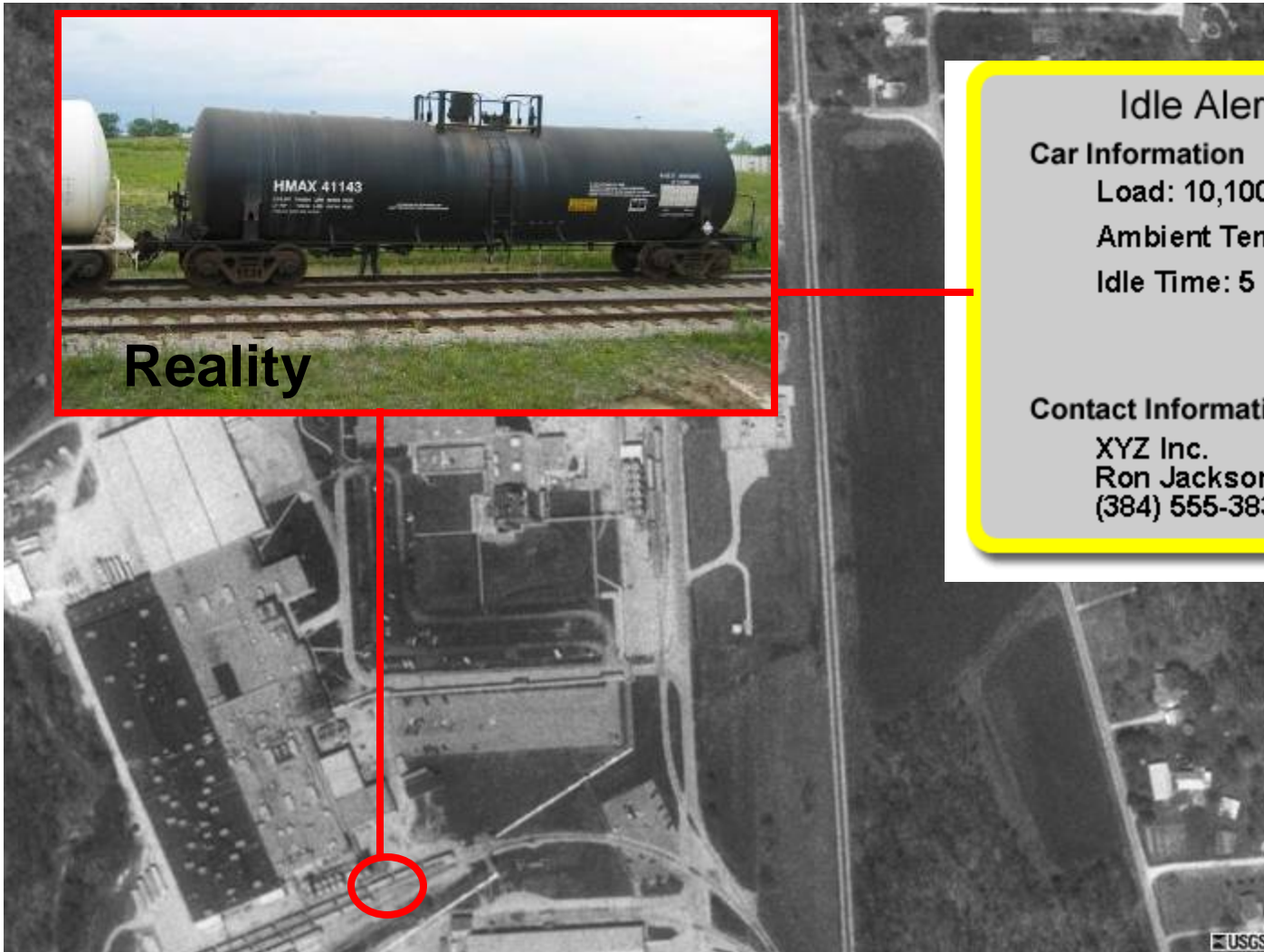
Ambient Temp: 45° F

Idle Time: 5 days ●

Contact Information

XYZ Inc.
Ron Jackson
(384) 555-3831

Online



A Series of Waves of Innovation have
defined the applications we use.

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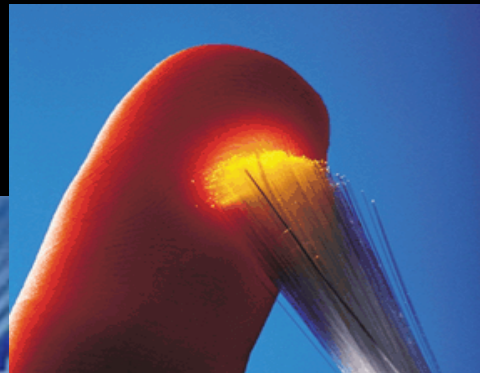
What's next?



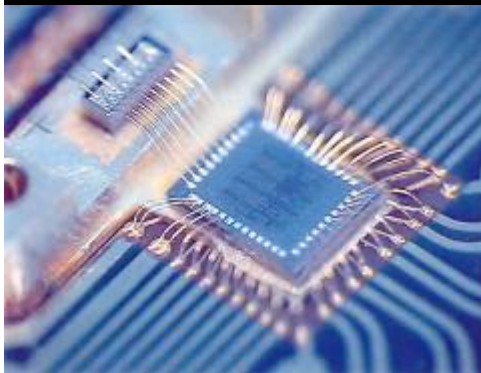
Visibility



Mobility



Connectivity



Computation

The rise of the insight economy



The recent waves of innovation are beginning to pay dividends in the form of a wealth of new data.

Insight – the ability to think and act based on what we sense – will be the next differentiator.

The result: An Insight Economy:

The ability of enterprises to perceive and respond to threats and opportunities at scale.



The Insight Economy: Scope



<XML>

Business Process Data

New Sources of Data
are enabling a new
class of applications.



Physical Sensors



Personal Data



Web
(Unstructured Content)

Maximizing the Value of Sensors

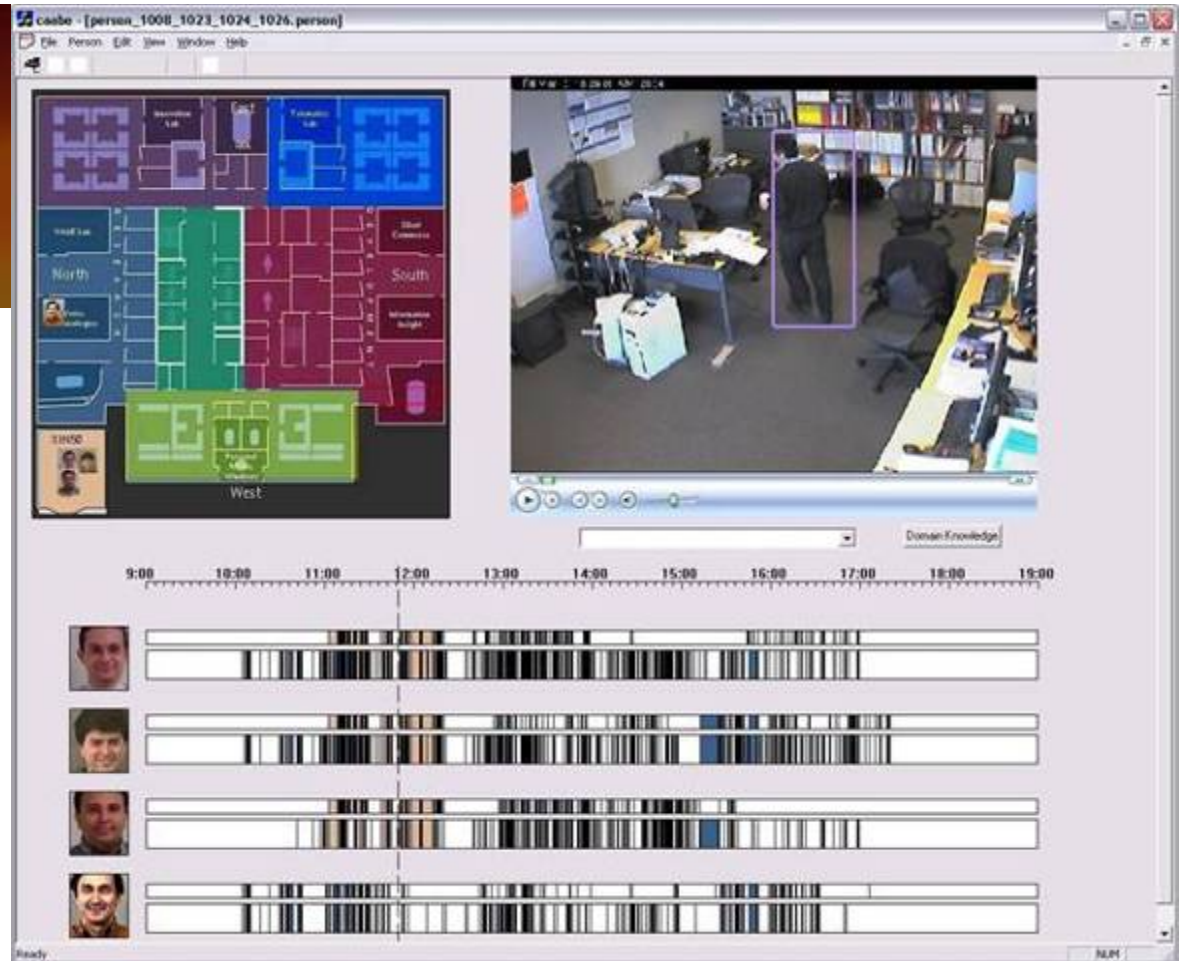
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Sensor Fusion



From Sparsity
to Redundancy



Sometimes a lot of data says very little.



What do these purchases say about this customer?

CustID	Date	SKU	Total
3477721	03-06-94	455523331	45.99
3477721	08-21-94	344610990	119.34
3477721	02-12-95	993345112	56.74
3477721	04-17-95	600933455	124.59
3477721	11-21-95	877331123	41.97
3477721	03-12-96	647539822	76.48



Impoverished data can be enhanced with alternative sources.



Product information captured with transactions is typically limited to little more than SKU, size, brand and price.

Stylistic attributes are unknown but are very informative.

Marketing descriptions are designed to convey a particular image to customers. These descriptions implicitly contain more elusive attributes.

Product Profiler analyzes this copy to extract such attributes as style, formality, and trendiness.

Fresh

$p(\text{trendy})=0.823$
 $p(\text{classic})=0.112$

Stretch

$p(\text{trendy})=0.671$
 $p(\text{formal})=0.112$

Shapely

$p(\text{conservative})=0.395$
 $p(\text{sporty})=0.272$

DKNY Jeans Ruched Side-Tie Tee

Get back to **basics** with a **fresh** new look this season. The **Ruched Side-Tie Tee** has a **drawstring** tie at left **hip** with **shirred** detail down the side. **Stretch** provides a **flattering, shapely** fit. **V-neck**.



Last Item Browsed: Laundry by Shelli Segal Embroidered Chiffon Dress

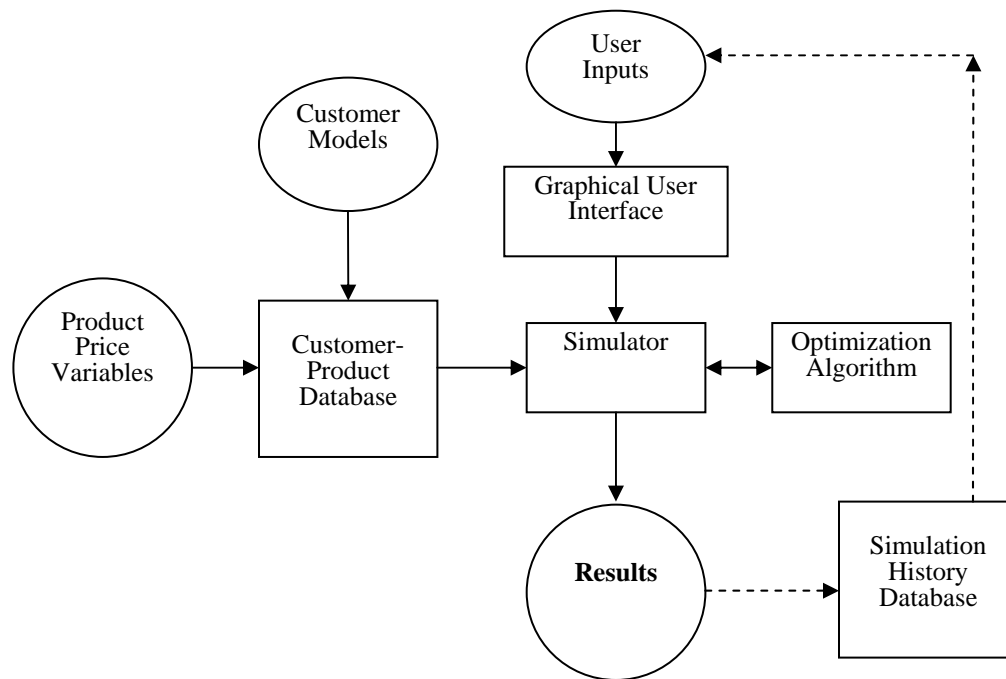
General

Style	Modern
Specialization	Sportswear
Price Point	Bridge

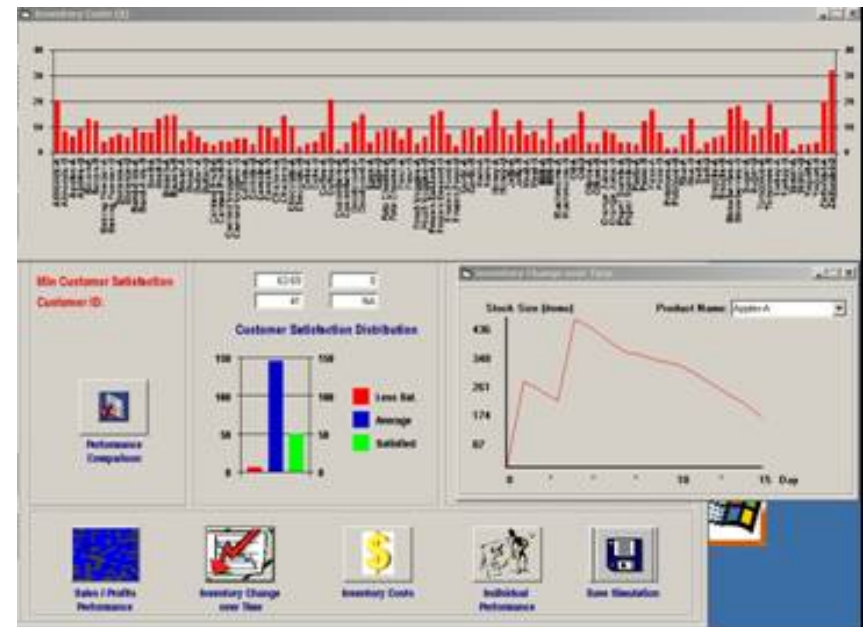
Item Metrics

Brand Appeal	3
Trendiness	4
Tone	3

Personalized Pricing Tool



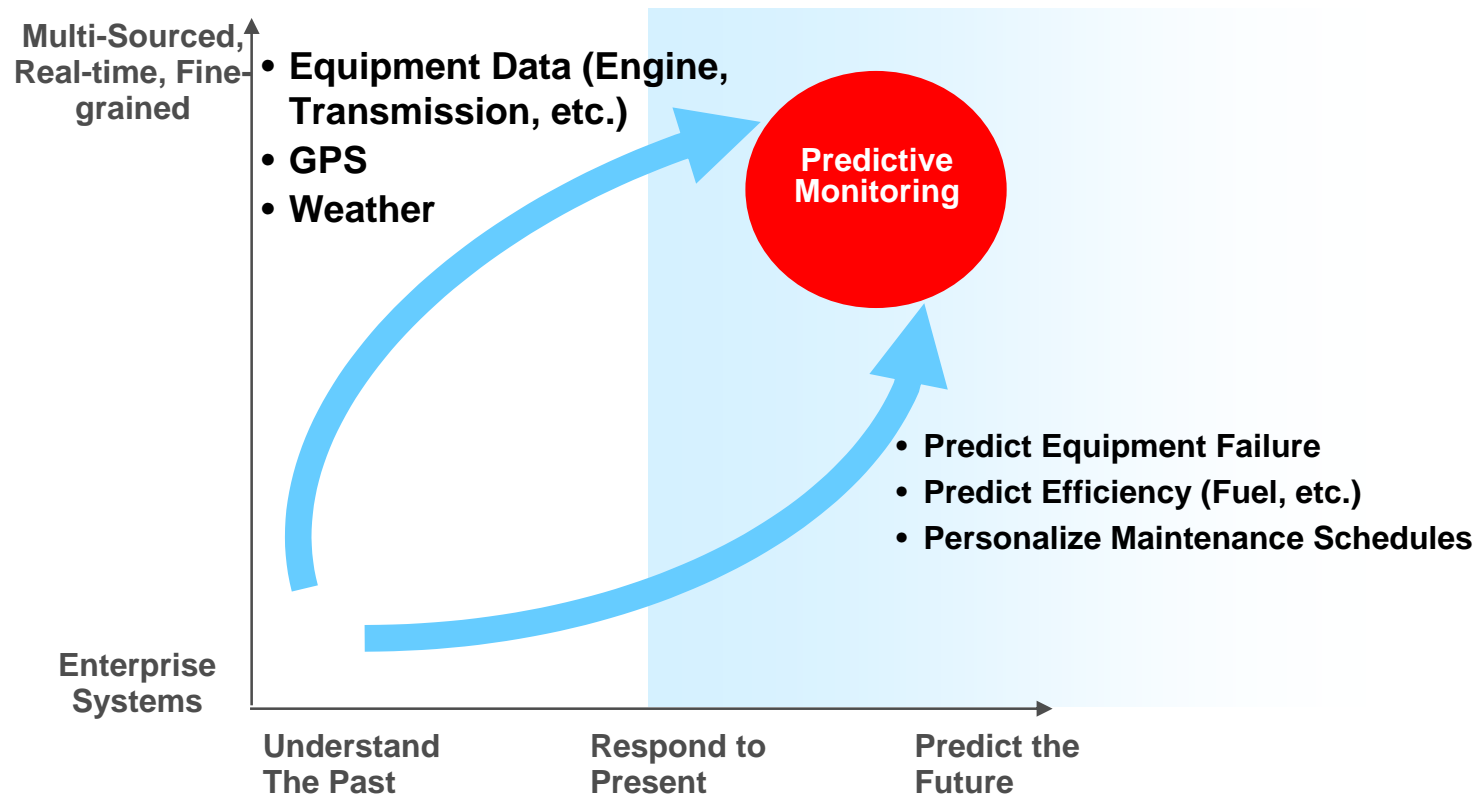
System Architecture



Graphical User Interface



Predictive Insight





Example: Metro St. Louis



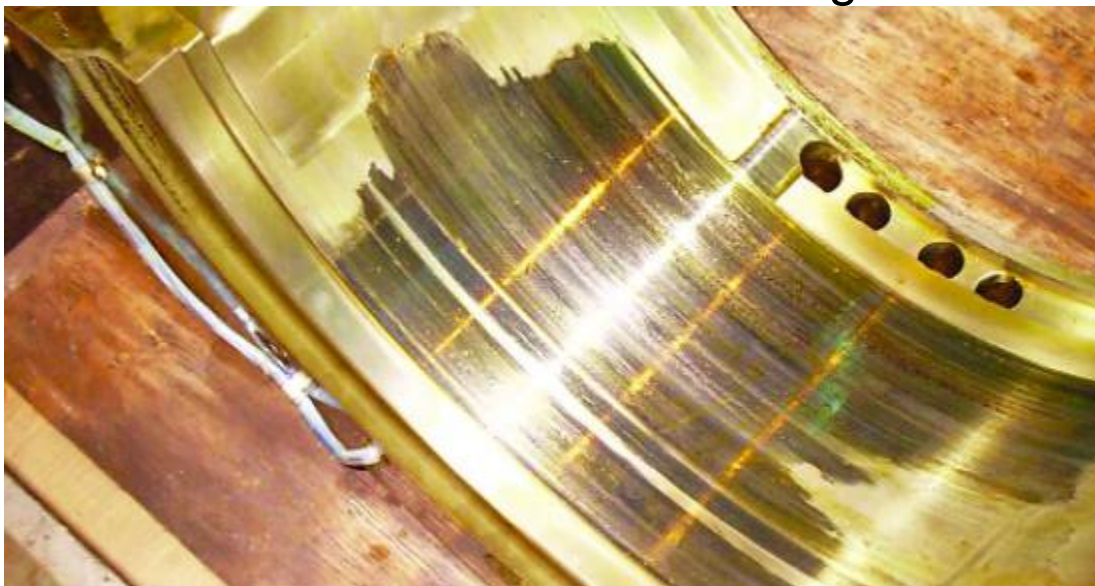
Different classes of Insight Engines will enable business to act in the face of uncertainty and scale.

Example:

Predictive Insight:

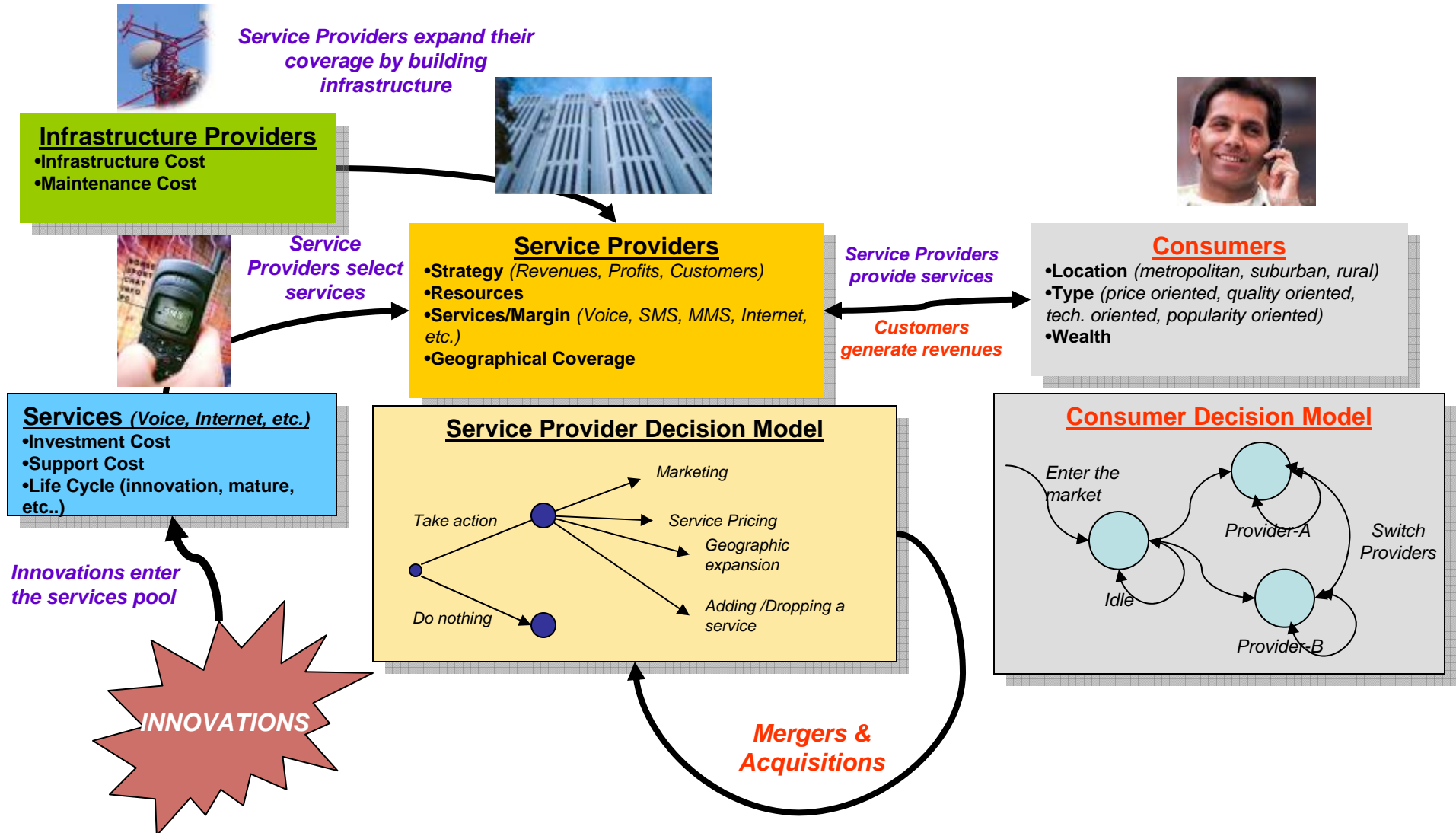


Real Time Fault Prediction Engines



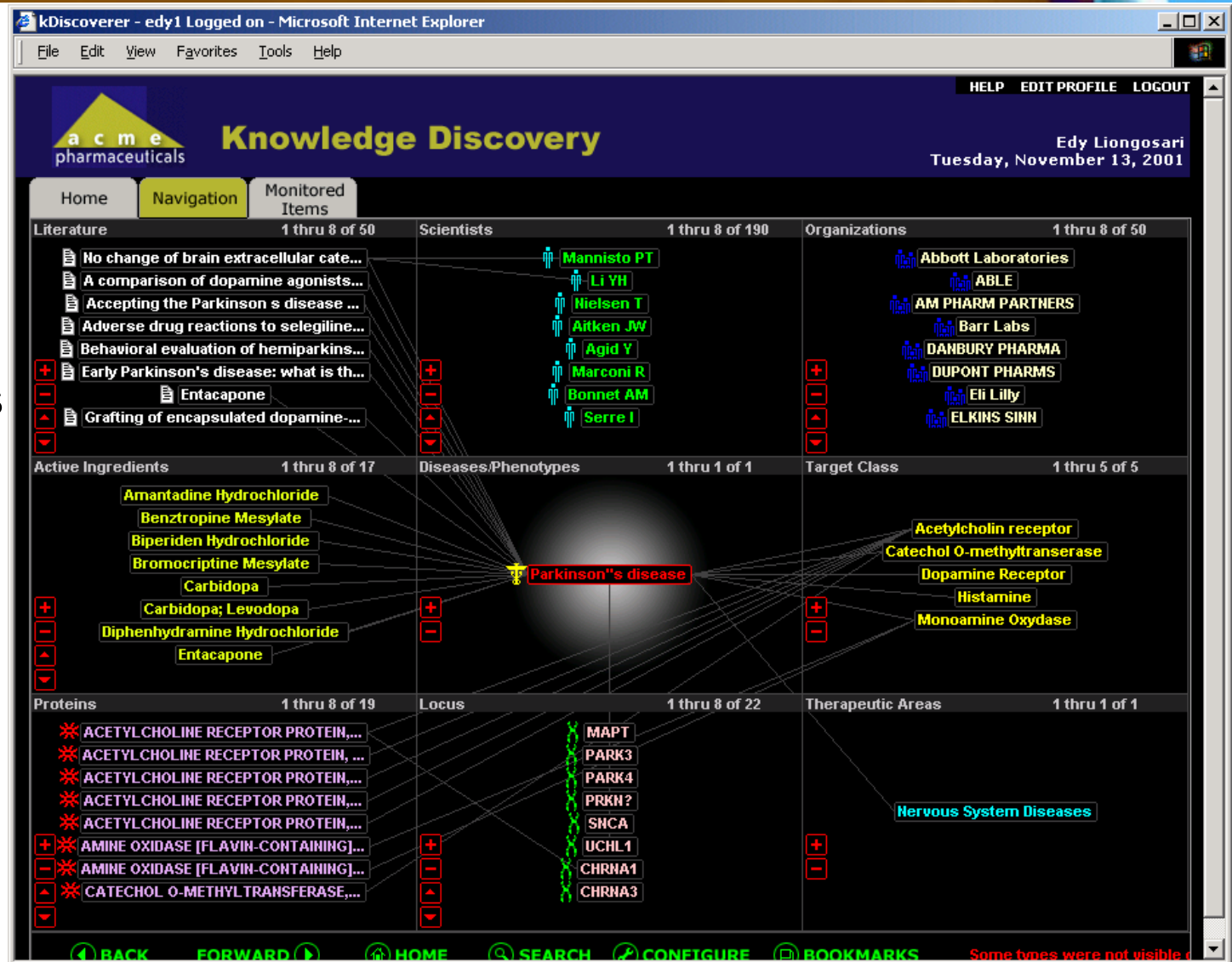
Industry Complexity Analysis and Simulation Tool

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Knowledge Discovery

How can knowledge workers who use disparate sources gain a coherent view of available information?



WIRELESS INDUSTRY COMPLEXITY ANALYSIS TOOL

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High performance. Delivered.



Simulation Inputs



General Inputs



Product Inputs



Consumer Inputs



Service Provider Inputs

Load Inputs

Load a Previous Simulation

Run Simulation

Save Simulation Results

Play Simulation

Previous Simulation Loaded

SIMULATION STATUS

MARKET STATUS



TIMELINE:
(months)

MONTH: 6

TOTAL CONSUMERS (M): 92.8 ANNUAL GROWTH RATE (%): 30

ACTIVE SERVICE PROVIDERS: 4

REVENUES (%)



TERRITORY COVERAGE (%)



PROFITS (%)



■ Horizon
■ BTT
■ Marathon
■ Plural

EVENTS HAPPENED IN MONTH: 6

Horizon Wireless has invested in an additional marketing initiative by spending \$25M

BTT Solutions has increased the pricing of Voice by %15

Marathon PCS has invested in an additional marketing initiative by spending \$126M

Plural Wireless has increased its territorial coverage by % 2.3

PLAYERS IN THE MARKET



HORIZON WIRELESS



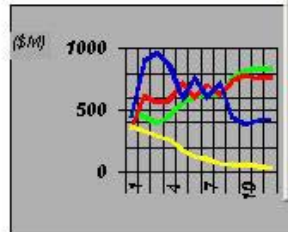
MARATHON PCS



BTT SOLUTIONS



PLURAL WIRELESS



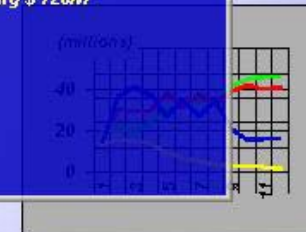
REVENUES



PROFITS



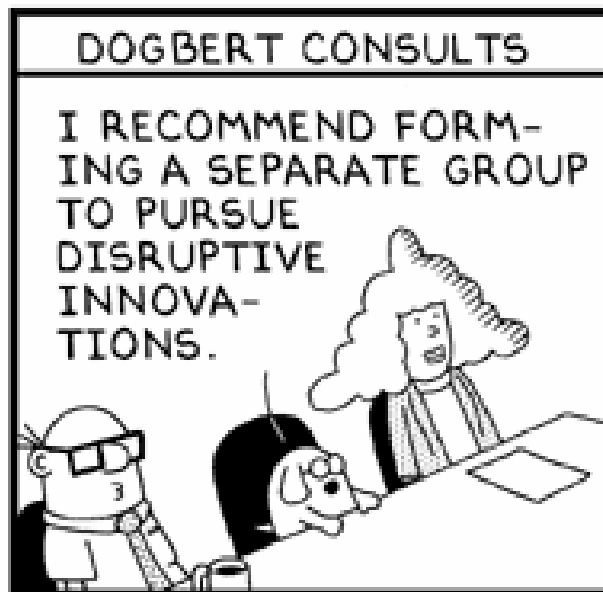
COVERAGE



CUSTOMERBASE

A second opinion...

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