



## KM Case Study: Combining Social Computing and Organizational Development efforts into a Virtual Technical Network (VTN)

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*Connecting People  
Sharing Knowledge  
Driving Results*



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# Introduction to Merck and GSTC



- ❖ **Merck/MSD is a leading global healthcare company of about 90,000 employees**
  - Merck merged with Schering Plough in 2009
- ❖ **Global Science, Technology & Commercialization (GSTC) is an organization within the Merck Manufacturing Division with the mission to commercialize and support long term reliable supply of our products through the following**
  - Manage the late stage product and process development of our pharmaceutical products
  - Operate pilot and full scale manufacturing facilities to manufacture clinical and commercial materials
  - Provide technical support for in-line products
- ❖ **GSTC is a large and diverse organization, consisting of ~3,000 employees, located at over 50 sites, in over 20 countries around the world**

# KM Roadmap

Foundation  
2007-09 2010-11

Installation &  
Execution  
2012 2013

Realization  
2014 2015+

**Get Started – Establish case for change,  
Develop strategy**

**Design and execute 4 initial pilots**

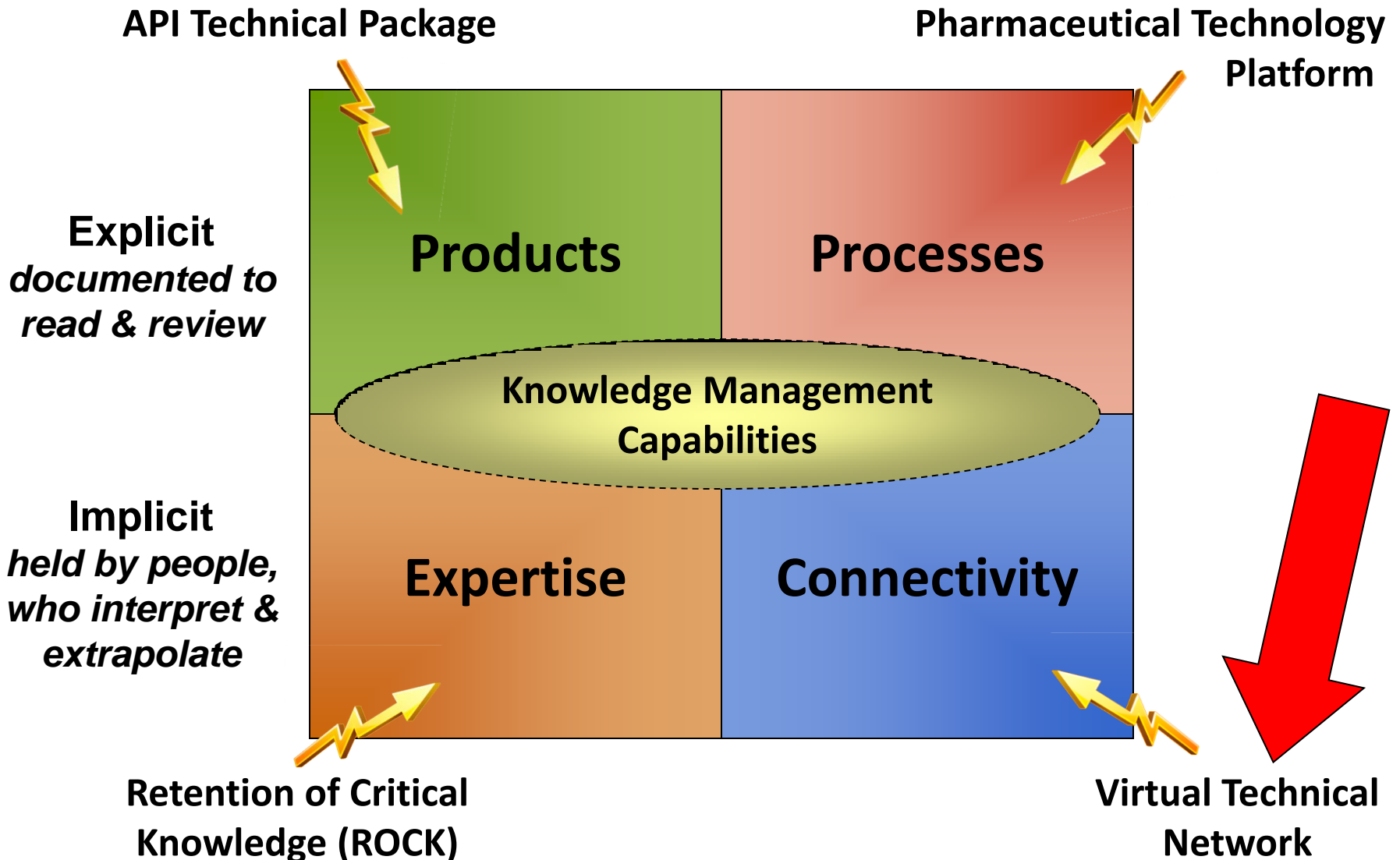
**Early replication & expansion of product,  
process & connectivity capabilities**

**Era of adoption – continue to expand  
and embed capabilities, develop  
additional capabilities for ideation**

**Sustain, improve, accelerate,  
additional capabilities for  
innovation, workplace coaching,  
further engage partners**

**Sustain and deliver value:  
Managing knowledge as  
how we work**

# Knowledge Management Pilots



# Why a Virtual Technical Network (VTN)?

*"People are our most important asset."*

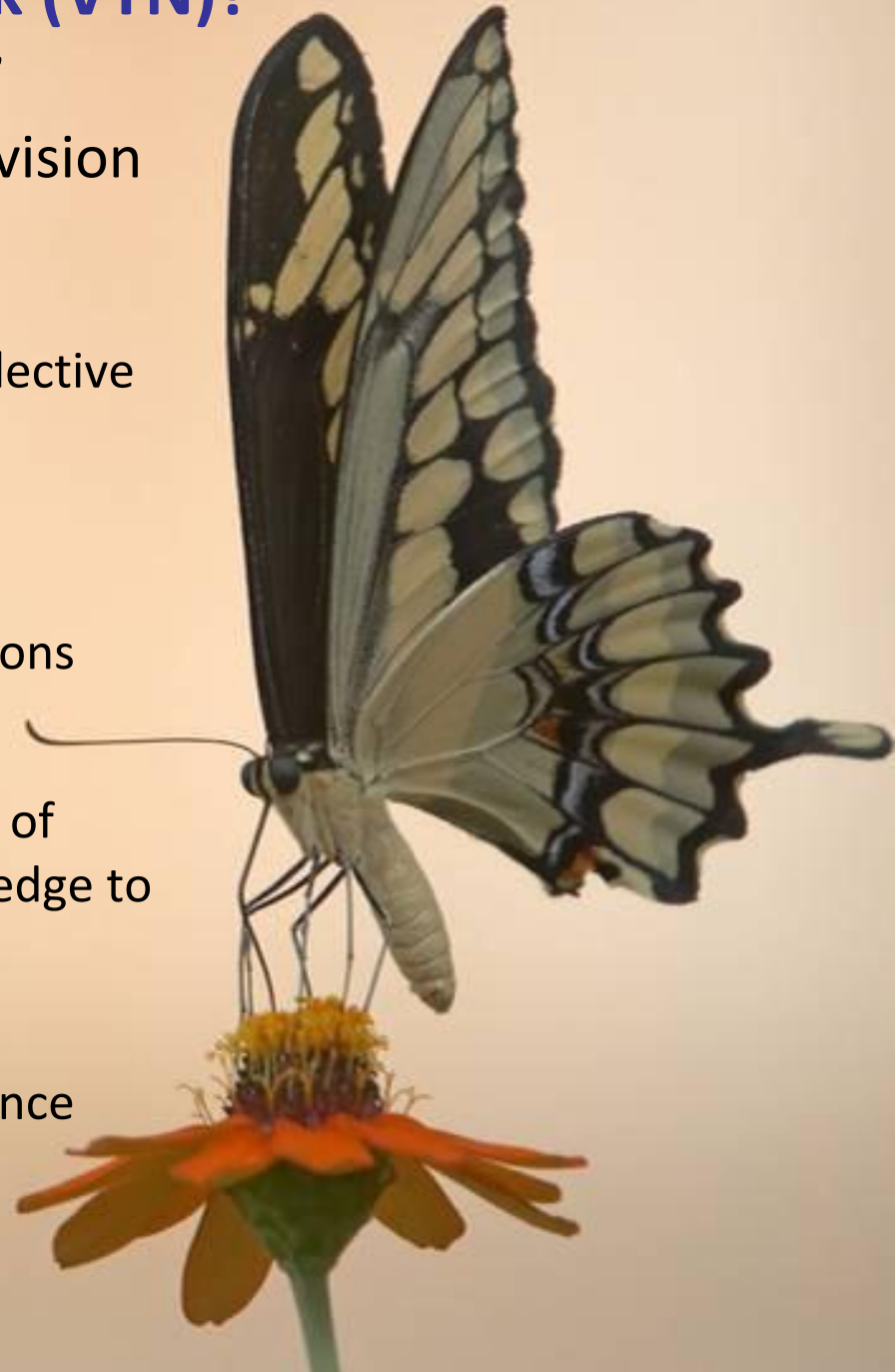
-President, Merck Manufacturing Division

## Case for Change

1. We were not harnessing our existing collective knowledge and experience
2. We have a large and globally dispersed population
3. We were integrating two large corporations

## Intent – What does success look like

1. Provide an efficient and effective means of connecting people, expertise and knowledge to create business value
2. Enable a more inclusive environment
3. Make problems visible and solve them once
4. Become part of how we work





# What is the Virtual Technical Network (VTN)?



***A KM capability to connect people to people and expertise***



# A User Perspective



## Expertise Profiles

**Vossen, David Anthony**

**Wyvrat, Jean M**

**Professional Bio:** Dr. Wyvrat received her B.S. in chemistry from the University of Florida and her Ph.D. in organic chemistry at the Ohio State University. She initially worked for Union Carbide in the area of exploratory metal-metal multiple bond research. After joining Merck Research Laboratories in 1989 in the Process Research department she was involved in the development and optimization of synthetic processes for new chemical entities. In 1993 she joined the Worldwide Regulatory Chemistry, Manufacturing & Control group where she was responsible for the preparation and maintenance of chemical and pharmaceutical manufacturing and control information sections for use in worldwide regulatory filings. As Executive Director of Analytical Research from 1996 to 2004, she was responsible for the coordination and direction of analytical and physicochemical research for drug substance development, including the development of specifications and analytical methods for new drug substances and the subsequent transfer of methodologies to the manufacturing sites. During 2004-2009, she was acting head of Process R&D encompassing chemical engineering, analytical research and GMP compliance aspects of drug substance development. Upon formation of the Global Pharmaceutical Commercialization organization in late 2009, she assumed the role of Vice President, Analytical Chemistry in Development and Supply with responsibility for analytical development and testing for all late stage drug candidates and pharmaceutical products from late Phase II through the launch of a new product, including the initial years on the market. In 2010, she was appointed Scientific Vice President, Analytical Sciences and Knowledge Management, with responsibilities that include sponsoring for establishment and implementation of a GSTC knowledge management strategy and recommendation of an aligned specifications and control strategy development and review groups. She has been chair of the PMDA Analytical Technical group and the PMDA API Technical group, as well as, representing PMDA on the expert working group for the ICH Q12 guidance documents. She is currently a member of the ICH Quality Implementation working group, which is charged with clarifying issues on the integrated implementation of ICH Q10, 1 and Q12. The ICH is preparing a training workshop to be given in 2013 in each of the ICH regions.

**Education:** Ph.D. in organic chemistry, The Ohio State University, 1979; B.S. in chemistry, University of Florida, 1974

**Previous Experience:** API process development for Clonidine, Fluoxetine, Citalopram, and Naloxonium Factor (NMF); CMC long preparation for development (IND) and Marketing Authorizations for Finrac, Fosmax, Celecox, Foscar, Simvastatin, Clovisar, Analytical development oversight for, early and late stage

## Collaboration Space for Technical Topics

**Discussions**

Discussions > [\\_Feedback](#) > [Call for Next Topics](#)

[Create New Reply](#)

**Call for Next Topics [permalink]**

[Subscribe](#)

Started By: [Tung, Chris](#)

September 14, 2010 1:39 PM

Now that the pilot of the VTN is underway, we are starting to plan for the full launch to all of GSTC in November. In order to provide enough topics to encompass the breadth of interests across GSTC, we will be chartering another 5 topic communities. Before selecting the next topics, we wanted to reach out to all VTN pilot participants for your suggestions of any particular topics. Now that you know more about the VTN, what critical topics do you think would positively impact the business through enhanced collaboration and also, generate a lot of interaction across the organization.

We are looking for suggestions by the **end of this week (Sept. 17th)** so that we can get started on preparations for the new topics

Actions: [Reply](#) | [Edit](#) | [Add Attachment](#) | [Delete](#) | [Mark Read](#) | [Add Tag](#) | [Rate](#)

Posted By: [Schaller, Joseph R](#)

September 15, 2010 4:31 PM

Sterile Product Manufacturing, focusing on aligning practices across New Merck manufacturing network on best practices. Could seed community with:

- Existing Mandatory Sterile Standard teams, defined by unit operation/subject area
- As well as members of Global Technical Sterile Exchange (led by Olga D'Henness)

Alternatively, if that topic is too broad, Lyophilization has always been a hot topic and may draw interest.

Actions: [Reply](#) | [Edit](#) | [Add Attachment](#) | [Delete](#) | [Mark Read](#) | [Add Tag](#) | [Rate](#)

Posted By: [Wyvrat, Jean M](#)

September 15, 2010 11:16 AM

Thanks, Joe. Lyophilization definitely appeared on our initial list of potential topics. I like the idea of sterile processing though, since there are many additional sites with capabilities for this in the network. Should we consider sterile product manufacturing or focus on sterile processing steps or even sterilization procedures? Further thoughts??

From: [Schaller, Joseph R](#)  
Posted: September 15, 2010 4:31 PM

### Includes things like...

- Key experience, including compounds worked on
- Professional background
- Education
- Memberships & Affiliations
- Areas of interest

### Includes things like...

- Key technical topics
- A place to ask questions
- Tagging, rating, links and other features to better manage knowledge and provide relevance
- 'Official' SMEs to help answer questions



# Barriers to a successful Virtual Technical Network

A photograph of a road in a savanna. An elephant is crossing the road, causing a traffic jam. Several cars and a truck are stopped. The truck in the foreground has 'TOYOTA' written on its back. The license plate of the car in the foreground is 'NZ 10681'. The background shows a savanna landscape with trees and grass.

## ❖ Cultural Norms

- Knowing Culture ( not safe to ask questions)
- Local mindset
- Email dominated communication

## ❖ Rapidly changing corporate environment

## ❖ Limited available change capacity



# Our Change Approach



~80% of knowledge is Tacit

Our workforce is a network of knowledge workers

Mindsets and behaviors strongly affect the flow of tacit knowledge in a human network

**Must create an Energized Network\* to maximize the flow of knowledge.**

\*see Rob Cross' work on Organizational Network Analysis

# Rules of Engagement based on inclusive behaviors\*

1. **Build trust in the community**
2. **Be willing to seek and share information**
3. **Listen as an ally**
4. **Create a sense of safety for yourself and others**
5. **Create a 360 degree vision and accept people's frame of reference as true for them**
6. **Ask who else needs to be in the room**
7. **Link to others ideas – Give Energy Back!**

# Create and sustain supportive energy



## ❖ Give energy back to people for...

- leaning into discomfort
- respectfully challenging
- Sharing their expertise and experience

## ❖ Share the new story

## ❖ Recognition

- Peer-to-peer
- Contributor
- Stewards





# Approach

## Standard Work

- Community Lifecycle Management

Active Change Management

## Business Focused Topics

- Fit in Portfolio
- Business Impact and Urgency
- Breadth of Topic

## Dedicated Support

- Core Team
- Community Stewards

Risk-Based Change Plan

# ***VTN has become a brand for professional networking and collaboration***



“VTN can help us work as a team, where we can have not just 200 hands - but rather thousands to help hold each other”

Per recent survey –

81% feel more included in the organization

84% feel the VTN is a new and valuable way of working

67% will recommend the VTN as a first place to go for information

# Our Successes

“It's comforting to know there is such a wealth of knowledge out there that is available by a click of the mouse”

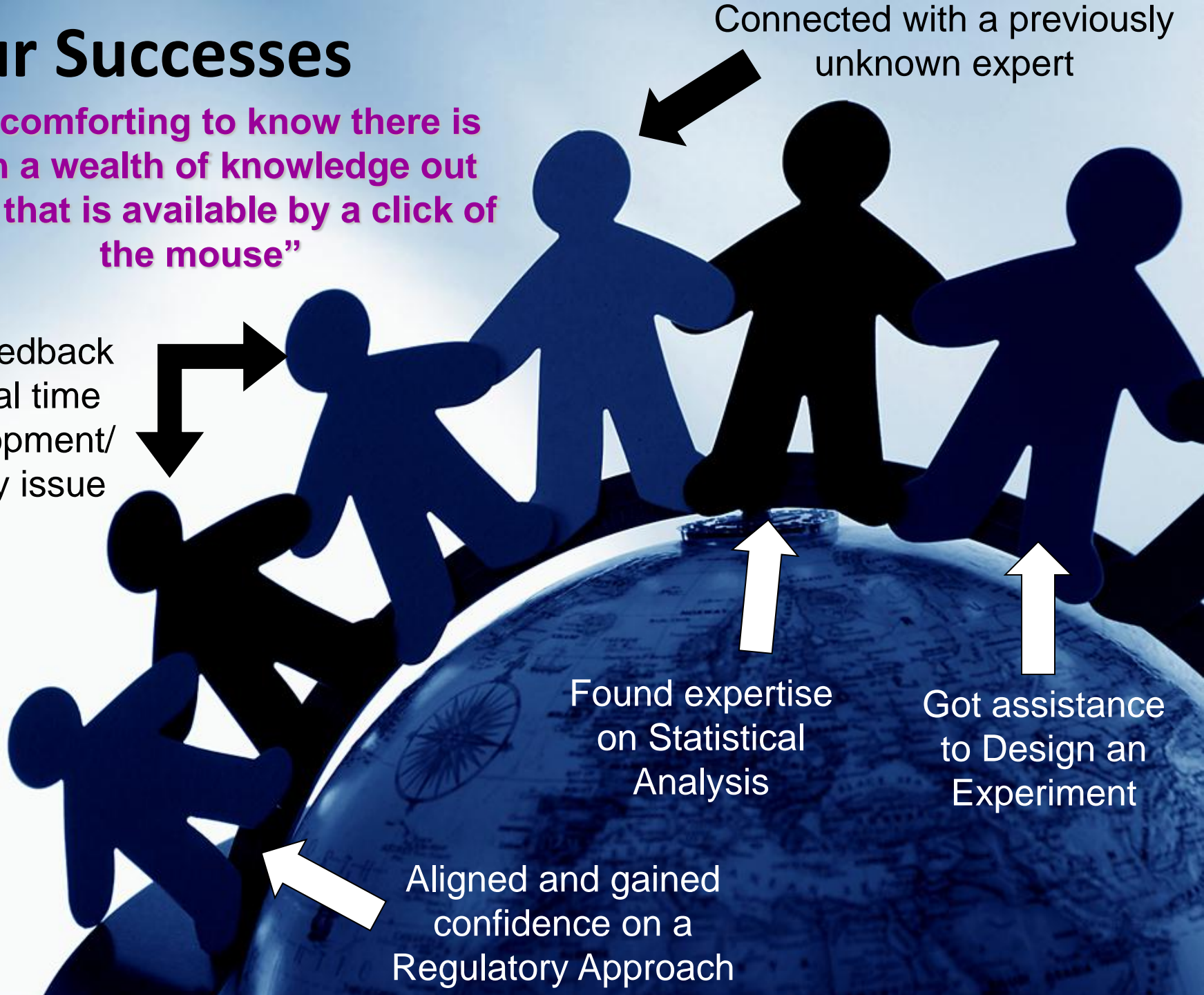
Got feedback on real time development/ supply issue

Connected with a previously unknown expert

Found expertise on Statistical Analysis

Got assistance to Design an Experiment

Aligned and gained confidence on a Regulatory Approach





# Lessons We've Learned

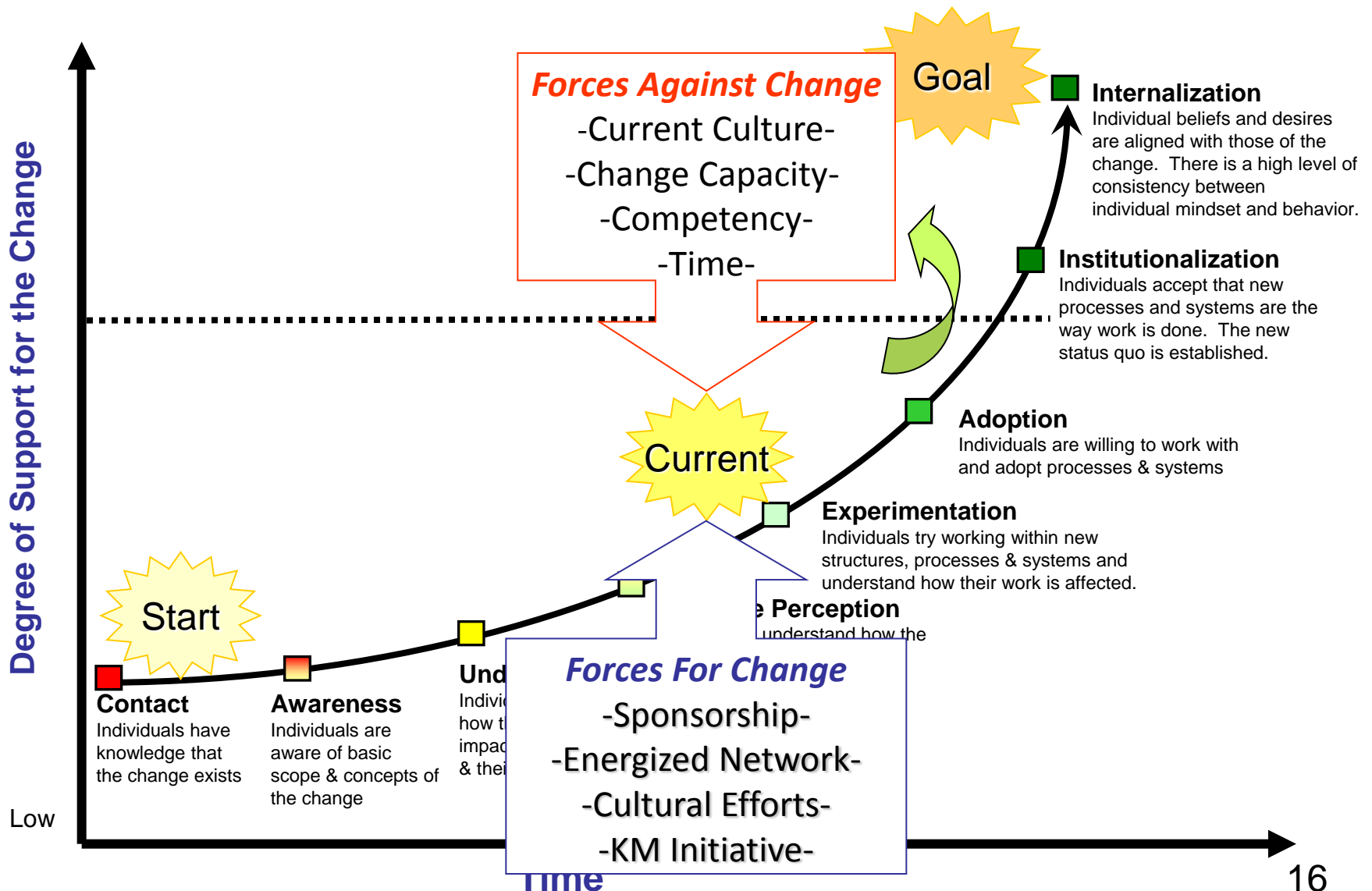
**Sponsorship-has to be strong and visible**  
**You need the right Community Stewards**

**Dedicated Support is crucial**

**Energy!!!!**

**Change Takes Time**

# Future of VTN: Internalization level of Commitment\*



\*Change commitment curve adopted from Conner Partners

Thank you for your attention

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Thoughts or Questions?