

# Transforming from a Data-Driven to a Knowledge-Driven Organization with PLM Focused Processes *PLM Road Map & PDT North America 2025*

PLM Road Map™ & PDT North America 2025  
*PLM's Integral Role in Digital Transformation: From Strategy to Execution*  
*Elevating PLM to an Enterprise Business Solution,*  
*the PLM Professional's Road Map to Success*

CIMdata

May 7 & 8

europstep

**FLANDERS**  
GLOBAL LEADERS IN ELECTRIFICATION

# GLOBAL LEADERS IN ELECTRIFICATION

## Transforming a Data Driven Organization to a Knowledge Driven Organization with PLM Focused Processes

Kenneth J Rasche, P.E.

FLANDERSINC.COM

### SUMMARY

- Current State vs. Dream State
- Why has PLM not been more successful in driving better products faster.
- How can we improve this? What can we do differently?
  - Structured knowledge, live documents, and collaboration
  - Every organization has its own strengths and weaknesses
- How do we start / transition?
- Questions?



# Transforming from a Data-Driven to a Knowledge-Driven Organization with

## PLM Focused Processes

### PLM Road Map & PDT North America 2025

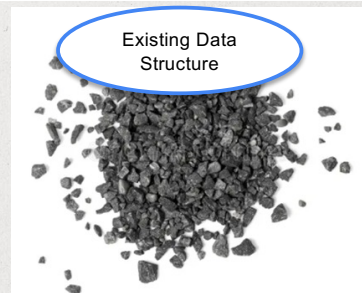
#### WHY HAS PLM NOT BEEN MORE SUCCESSFUL

PLM software collects **project data**, not organizational knowledge

Development Speed **needs knowledge** that spans projects

Many **current processes** are based on historic paper processes

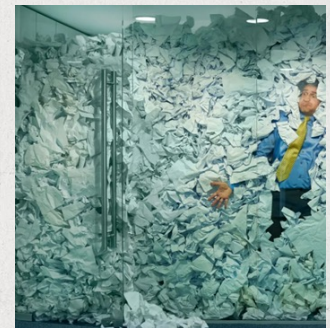
**Projects driving knowledge** is more significant than choice of PLM software



#### WHERE ARE WE?..... WHERE SHOULD WE GO?

##### Current State – **Data** Everywhere

1. Not necessarily in PLM.
2. Organization is not aware it exists
3. Conflicting information / knowledge



##### Dream State – **Knowledge** you need, where and when you need it

1. Where it is supposed to be (5s'd)
2. Project execution begins with existing knowledge and fills in the gaps of existing knowledge
3. Knowledge creation is deliverable of the project

# Transforming from a Data-Driven to a Knowledge-Driven Organization with

## PLM Focused Processes

### PLM Road Map & PDT North America 2025

#### DEFINITION OF THE KNOWLEDGE

Often organization's processes drive output **data** that is **not very useful** for successive projects.

We can restructure and redefine the knowledge / documents to provide what we need for reusability – "pick up where we left off"

We need R.O.C.K.s

- Reuseable
- Organizational
- Collaborative
- Knowledge



#### MAKING ROCKS

Methods for making R.O.C.K.'s?

- **Reuseable** – What form/format would be the most useful on a successive project?
- **Organizational** – Everyone knows where to find it and has access
- **Collaborative** – Everyone can understand how it was created
- **Knowledge** – Structure your knowledge, even before it is knowledge

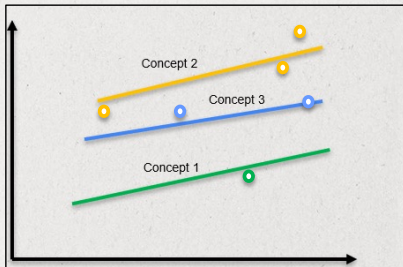


# Transforming from a Data-Driven to a Knowledge-Driven Organization with

## PLM Focused Processes

### PLM Road Map & PDT North America 2025

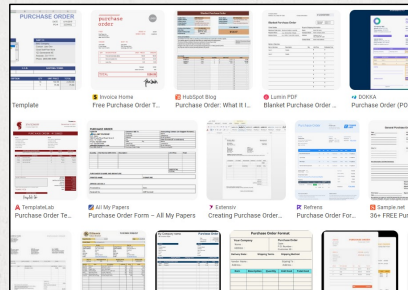
#### TWO DIFFERENT ROCK TYPES



#### Product and Process Knowledge (PPK)

- Documents knowledge of how product performance outputs, are defined by design inputs
- These make product development fast and efficient
- Projects use these to scope and execute new designs
- Example: how is cabinet stiffness requirements impacted by steel thickness?

Reusable  
Organizational  
Collaborative  
Knowledge



#### Business Process Knowledge (BPK)

- These reduce wasted time on non-value-added tasks
- These make training new people fast and painless
- Example: FMEA, DFM, PO, Test request, etc.

#### MATURING LIVING DOCUMENTS / KNOWLEDGE

##### **Define** your knowledge structure

- What do you need to know and how it interacts with all other ROCKS

##### **Use** the structure – don't wait until perfect

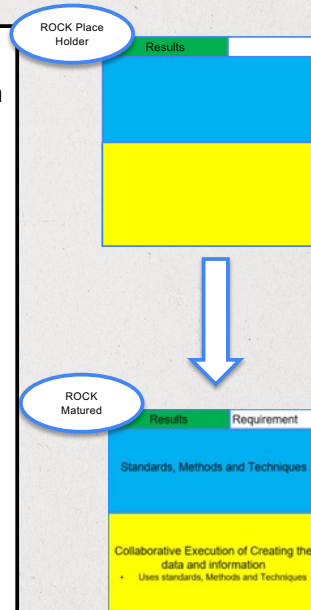
- Stop working outside the structure - collect your data and information

##### **Mature** the knowledge / documents

- Change status of the documents as they mature – never delete

##### **Never** move the knowledge / document

- The latest and correct knowledge is always in it's assigned location



Reusable  
Organizational  
Collaborative  
Knowledge

# Transforming from a Data-Driven to a Knowledge-Driven Organization with

## PLM Focused Processes

### PLM Road Map & PDT North America 2025

#### BRICK AND MORTAR LIBRARIES



Reusable  
Organizational  
Collaborative  
Knowledge

#### **Define** your knowledge structure

- Same

#### **Use** the structure – don't wait until perfect

- Same

#### **Mature** the knowledge / documents

- Same

#### **Never** move the knowledge / document

- Same

#### BUSINESS PROCESS ROCK LIBRARY



#### Library – Master **ROCK** List for:

- Engineering tools and spreadsheets
- DFMEAs
- Design Standards
- Process Standards
- Test Procedures
- Test Results
- Design Guides
- Data Collection
- Schedules
- Quality Tools
- Engineering Metrics
- Pugh Matrices
- Risk Analysis
- FEA Analysis
- MotorCAD Analysis
- PO's
- DRMs
- Requirements Documents
- A3's
- D8's
- Inspection Reports
- Any other document that is standard and/or we want to be standard

Reusable  
Organizational  
Collaborative  
Knowledge

#### Efficiency

- **Point** new people to the libraries
- **Examples** are there with authors, collaborators and dates
- **Questions** plummet
- **Quality** of the information skyrockets!
- **Change** is easy and painless



# Transforming from a Data-Driven to a Knowledge-Driven Organization with

## PLM Focused Processes

### PLM Road Map & PDT North America 2025

#### TRANSITION

##### Phase 1

1. **Create Libraries** for business process ROCKS, Start where it makes sense for your organizational culture
2. **Train people** how to use the libraries to collaborate and mature documents
3. **Work in those libraries** vs. hard drive and email attachments
4. **Adjust** practices and uses as the organization adopts and accelerates

##### Phase 2

1. **Migrate** all business process ROCKS that make sense
2. **Create** first product knowledge ROCKS – again, biggest bang for the buck
3. **Morph** library structure and ROCKS as needed for efficiency – this is why live documents are important
4. **Never Complete** – continuously improved, just like your products

Reusable  
Organizational  
Collaborative  
Knowledge

BIG Culture Shift

#### CONCLUSION

Creating ROCKs (Reusable, Organizational, Collaborative, Knowledge) for your organization will enable you to better achieve PLM objectives

Reusable  
Organizational  
Collaborative  
Knowledge




# Transforming from a Data-Driven to a Knowledge-Driven Organization with

## PLM Focused Processes

### *PLM Road Map & PDT North America 2025*

QUESTIONS?



Reusable  
Organizational  
Collaborative  
Knowledge