

# Transformation Digitale

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# **L'organisation, face à l'épreuve de la transformation digitale**

# Deux mondes à part

Digital Natives <4%  
GDP

Google

amazon

facebook



DEEPMIND

criteo

SKYTREE  
THE MACHINE LEARNING COMPANY

IBM Watson

Dataiku

Digital Immigrants >96%  
GDP

中国石化  
SINOPEC

国家电网公司  
STATE GRID CORPORATION OF CHINA

STATE GRID  
CORPORATION OF CHINA

GE

TOTAL

Cargill

UNITEDHEALTH GROUP\*

ExxonMobil

VOLKSWAGEN

AKTIENGESELLSCHAFT

Vitol

# Deux mondes à part

data-centric  
industry <4%  
GDP

## PRODUIT

Les **datas sont au cœur des produits** et du modèle d'affaire

facebook



IBM Watson

criteoL



SKYTREE  
THE MACHINE LEARNING COMPANY

traditional  
industry >96%  
GDP

## PROCESS

Les **datas sont le by-product d'un processus métiers**



TOTAL

ExxonMobil



UNITEDHEALTH GROUP\*

Walmart

Vitol

VOLKSWAGEN  
AKTIENGESELLSCHAFT



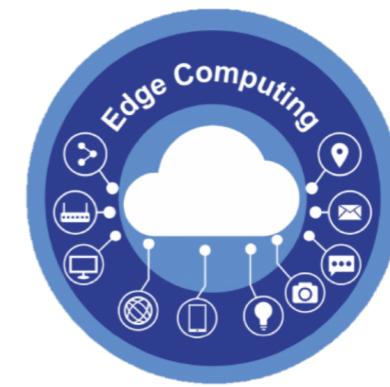
**THALES**



...

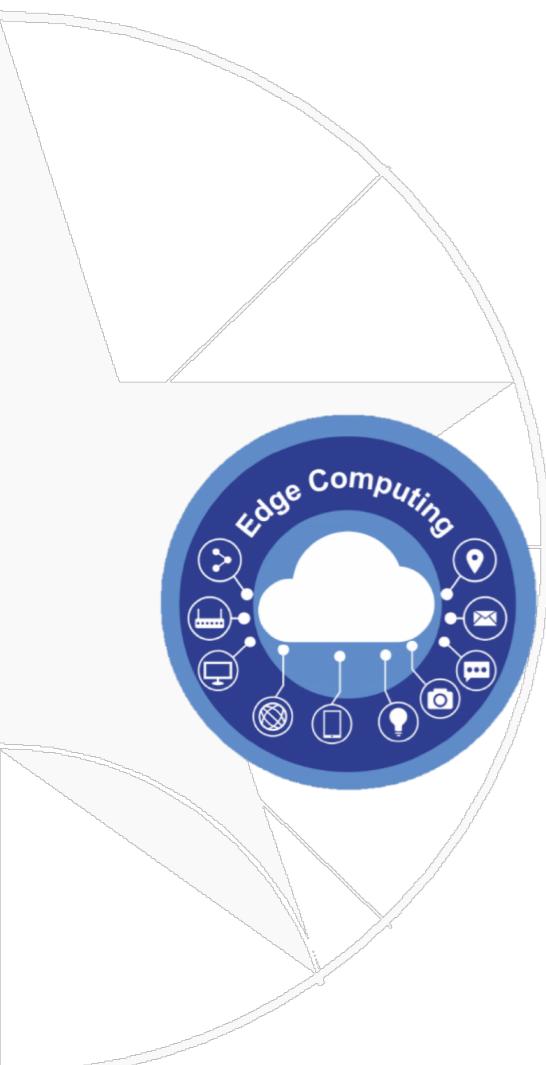
# Brining our partners to the Edge

**Large physical infrastructures**  
and/or  
**Small & fragmented datasets**  
and/or  
**Incomprehension of the value of data**



Hardware with physical effect  
A different kind of scalability  
Support for building use cases

# The industry requires a different approach to AI

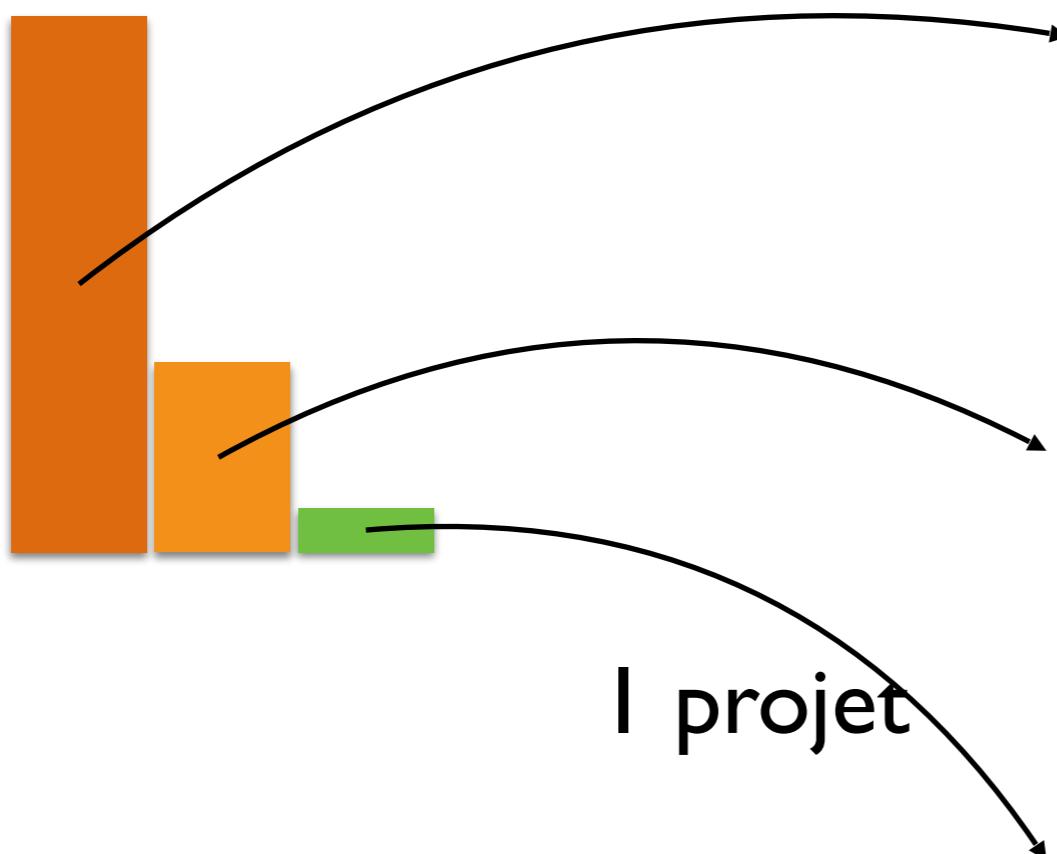


Contrary to (Google, Facebook...) who are pure digital players, most **industrial companies are cyber-physical** (large physical infrastructures, small and fragmented datasets, ...)

Most industrial professionals are **untrained to extract value from data** (to build new use-cases, to build ROI from data, to manage data-driven projects...)

Industry has domain-specific theoretical models - that are today **challenged by data-driven and domain-agnostic models**

# Les projets de data science: Un taux de mortalité très élevé



## Projet “éternellement” en cours de démarrage

- qualité des données,
- absence des données,
- no ROI

## “POCs”

- Suite? - mort ‘moins’ subite
- Qualité du modèle résultant pas satisfaisant

## Modèle passé en production

- - avec un délai de deux ans!
- ROI pas justifié, sauf apprentissage organisationnel

**The observed difficulties are not new.**

## Management in the 1980s

H. J. Leavitt and T. L. Whisler

Over the last decade a new technology has begun to take hold in American business, one so new that its significance is still difficult to evaluate. While many aspects of this technology are uncertain, it seems clear that it will move into the managerial scene rapidly, with definite and far-reaching impact on managerial organization. In this article we would like to speculate about these effects, especially as they apply to medium-size and large business firms of the future.

The new technology does not yet have a single established name. We shall call it *information technology*. It is composed of several related parts. One includes techniques for processing large amounts of information rapidly, and it is epitomized by the high-speed computer. A second part centers around the application of statistical and mathematical methods to

- “Ordinateurs de grande vitesse”
- “Techniques pour le traitement de larges quantités d’informations”
- “Pensée d’ordre supérieur”
- “Programmation mathématique et statistiques”

[BOOK] [Management in the 1980's](#)  
HJ Leavitt, TL Whisler - 1958 - [books.google.com](#)

... 1 They can locate and work up closer liaison with some of the organizationally fuzzy groups in the departments, departments of organization, statistic

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# The Future of Operational Research is Past

RUSSELL L. ACKOFF

Silberberg Professor of Systems Sciences, University of Pennsylvania

After a brief discussion of the diagnoses of others of OR's ailments, a detailed examination is made of the impacts of academic OR on its practice. These impacts include the dispersion of OR in organizations, the displacement of OR workers, and the dissolution of its interdisciplinarity. Then the changes in OR's environment which should have evoked adaptive responses from it, but didn't, are considered. The increasing inappropriateness of OR's methodology is discussed by focusing on the deficiencies of its concept and practice of optimization, and its pursuit of objectivity. These deficiencies, it is argued, can only be overcome by a comprehensive reconceptualization of the field, its methodology, the way it is practised, and the way students are educated to practise it.

## INTRODUCTION

A FEW YEARS ago I was asked to speak at the Joint Annual Meeting of the Operations Research Society of America and the Institute of Management Sciences. I characterized that occasion as a wake for the profession, whichever name it chose to use. In my opinion, American Operations Research is dead even though it has yet to be buried. I also think there is little chance for its resurrection because there is so little understanding of the reasons for its demise.

This lack of understanding is well reflected in a recent article by John R. Hall Jr. and Sydney W. Hess entitled "OR/MS Dead or Dying? RX for Survival" that appeared in *Interfaces*.<sup>1</sup> The authors prescribed five treatments:

(1) ... practitioners could be more effective if more of the academics' new discoveries in OR/MS theory were made truly accessible to them. The use of short (2 page) readable summaries—referred to protect the academics' interests—could help to move

- “La recherche opérationnelle est morte”
- “peu de chance de résurrection”
- “car les gens ne comprennent même pas la cause de son extinction”
- La “crise” de la recherche opérationnelle

## The future of operational research is past

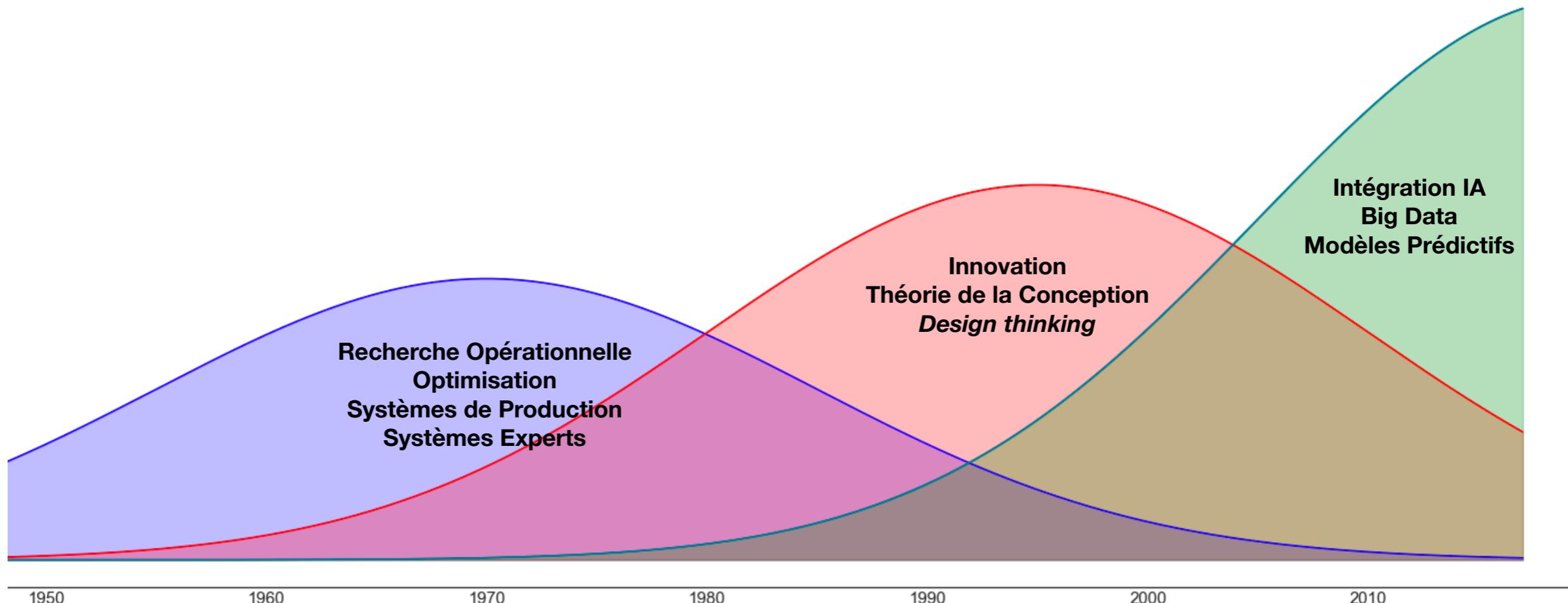
RL Ackoff - Journal of the operational research society, 1979 - JSTOR

After a brief discussion of the diagnoses of others of OR's ailments, a detailed examination is made of the impacts of academic OR on its practice. These impacts include the dispersion of OR in organizations, the displacement of OR workers, and the dissolution of its interdisciplinarity. Then the changes in OR's environment which should have evoked adaptive responses from it, but didn't, are considered. The increasing inappropriateness of OR's methodology is discussed by focusing on the deficiencies of its concept and practice of optimization, and its pursuit of objectivity. These deficiencies, it is argued, can only be overcome by a comprehensive reconceptualization of the field, its methodology, the way it is practised, and the way students are educated to practise it.

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(5) Internship programs can also foster closer relationships between academics and nonacademic professionals.

# Ce n'est pas la 1<sup>ere</sup> vague de “rationalisation”



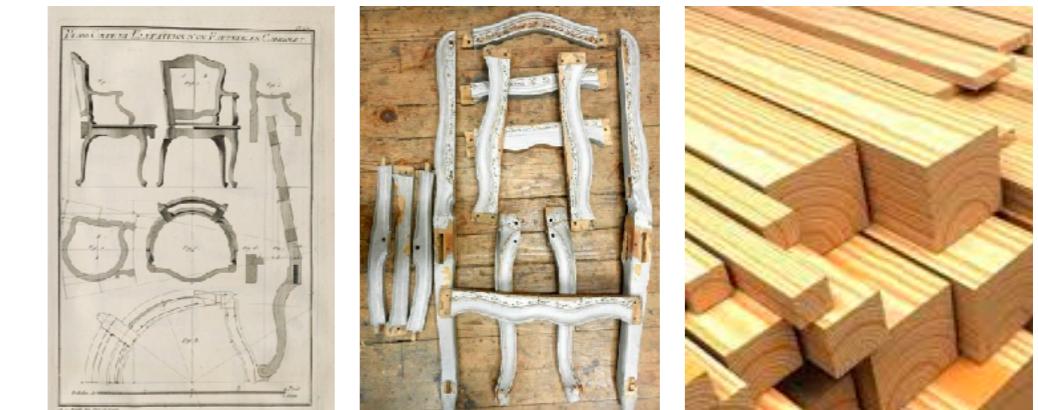
# Un nouveau rôle organisationnel: l'architecte de la valeur



Hans Wegner chaise longue



**Data Value Architect**



**Data Scientist**



# **La dualité outils et travail**

**La transformation digitale est  
essentiellement une question  
de “process métiers” et  
d’outils**

**Il s'agit de renouveler ses **outils**  
et sa manière de travailler**

**La transformation des métiers -**  
**il n'y a que les métiers qui**  
**peuvent le faire.**

**La mauvaise nouvelle,  
C'est que l'intelligence conceptrice  
des métiers a disparu**

# Automates humains vs automates machines



# Deux fonctions principales d'un métier

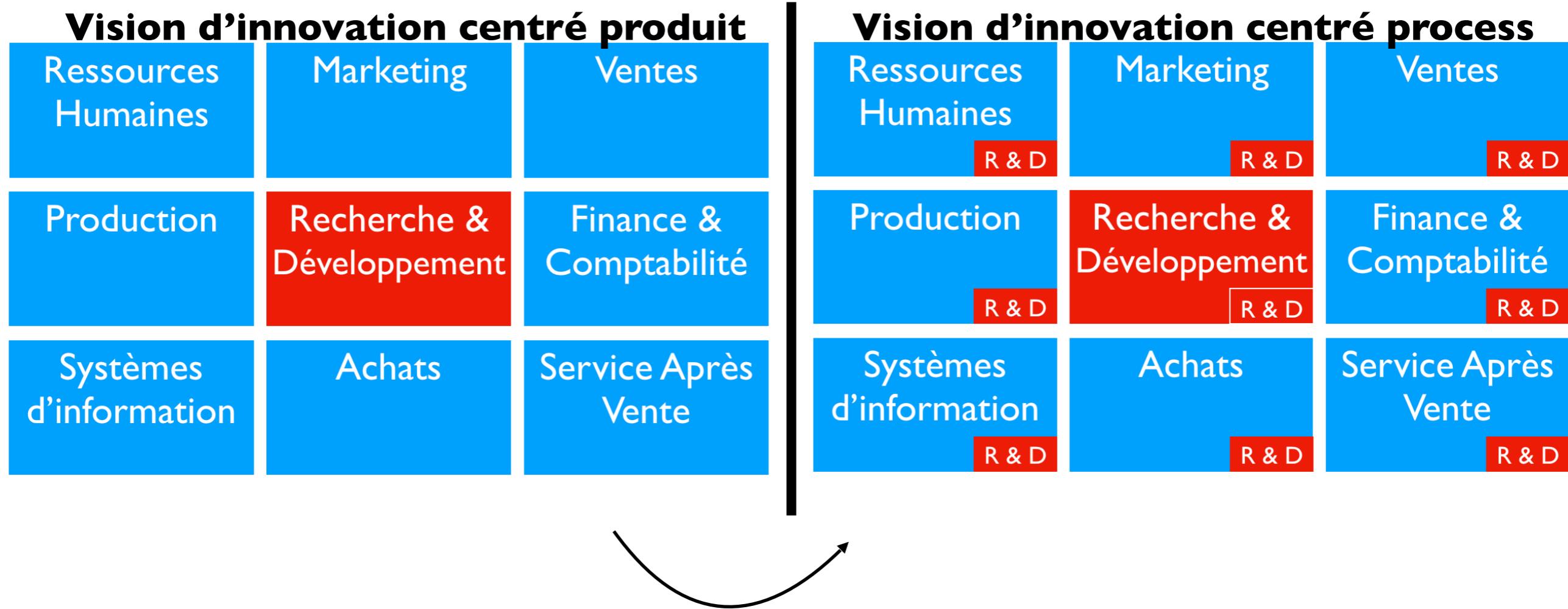
**“Geste parfait”**



**“Outils parfait”**



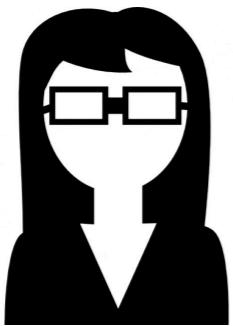
# Rétablissement une intelligence conceptrice dans chaque métier



Un basculement dans le focus de l'innovation

# La mutation du rôle des métiers

Hier



Exécution



Aujourd'hui



**Conception &  
Supervision &  
“Professorat”**



Execution



# Merci

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- <https://www.youtube.com/watch?v=494dUevcqJM>
- <https://www.youtube.com/watch?v=KaMeOkT8UEI>
- <https://thekidshouldseethis.com/post/making-a-traditional-one-of-a-kind-kokeshi-japanese-wooden-doll>
- <https://www.dailymotion.com/video/xz78i0>