Value of Data Science - Ensure your precious time is wisely spent!

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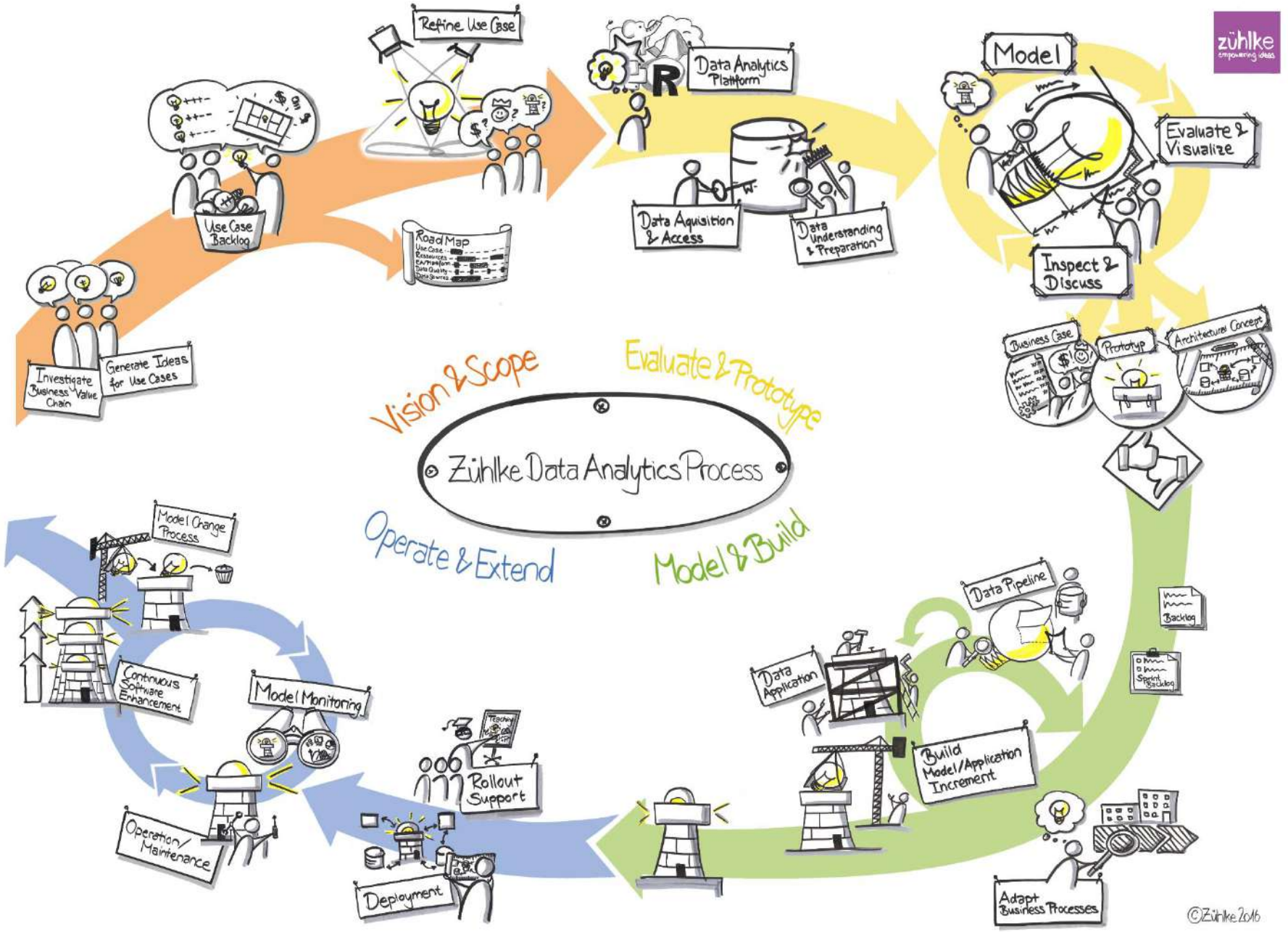
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empowering ideas
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Adapt Business Processes
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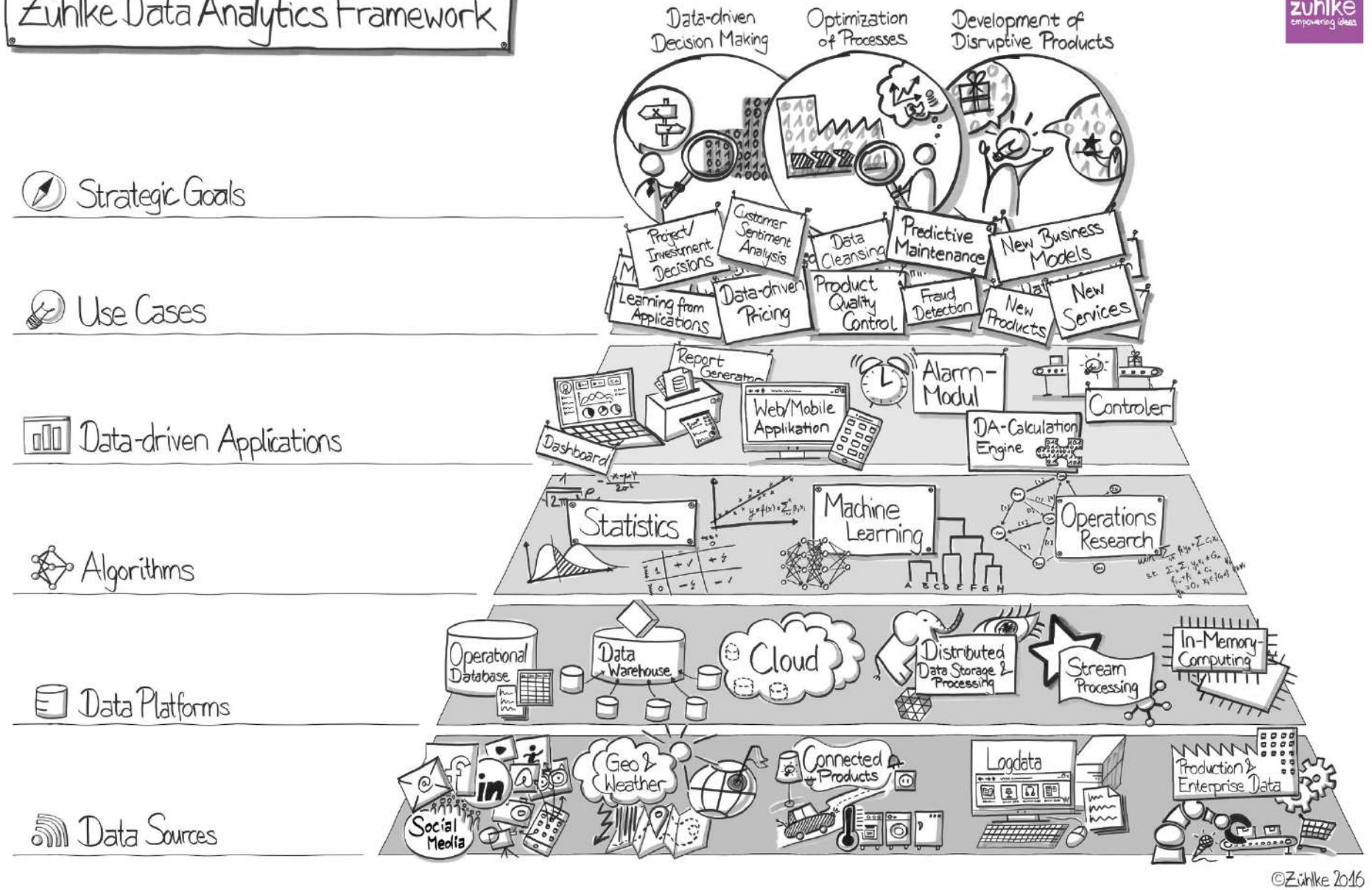
Zühlke Data Analytics Framework



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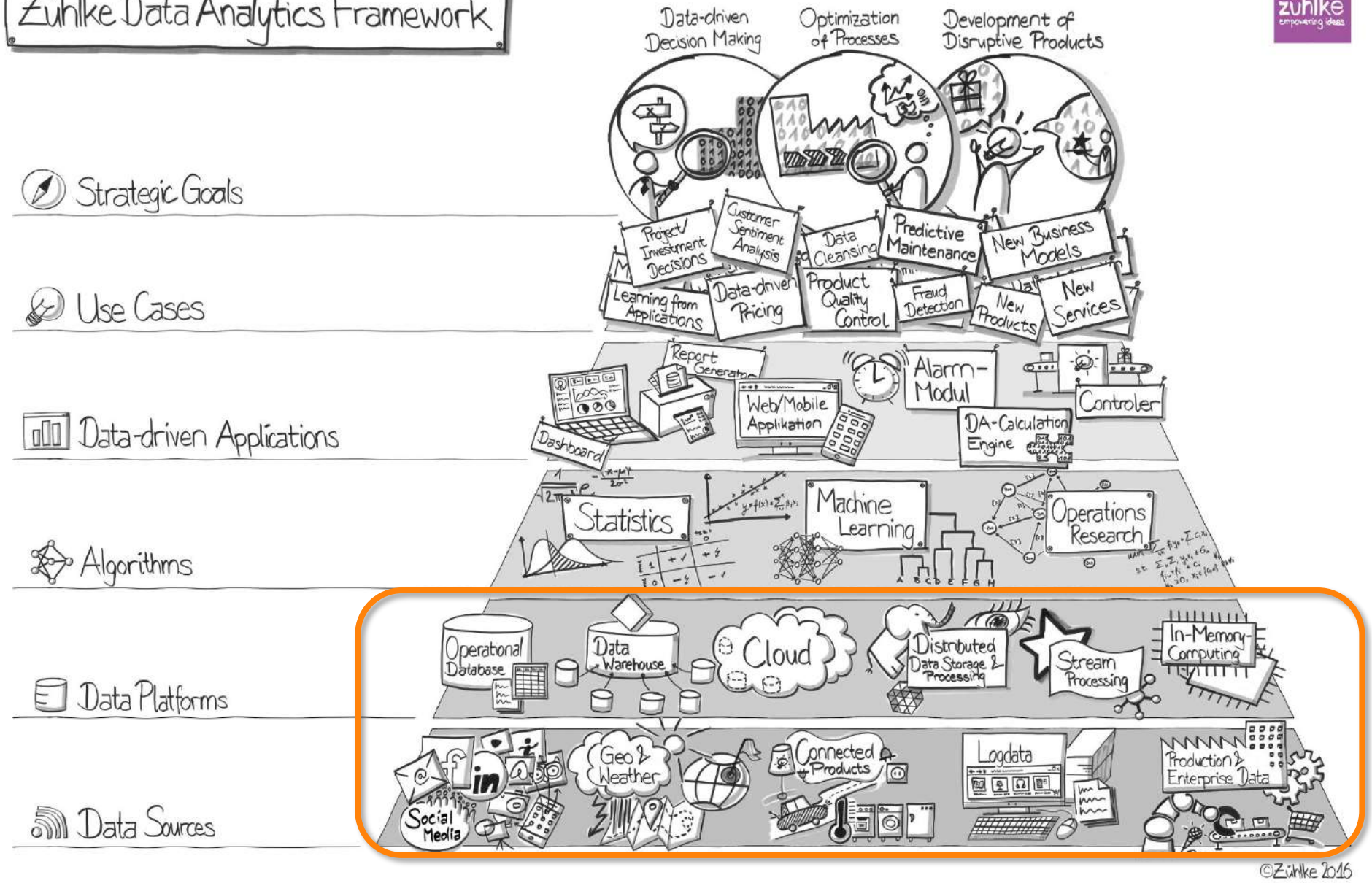

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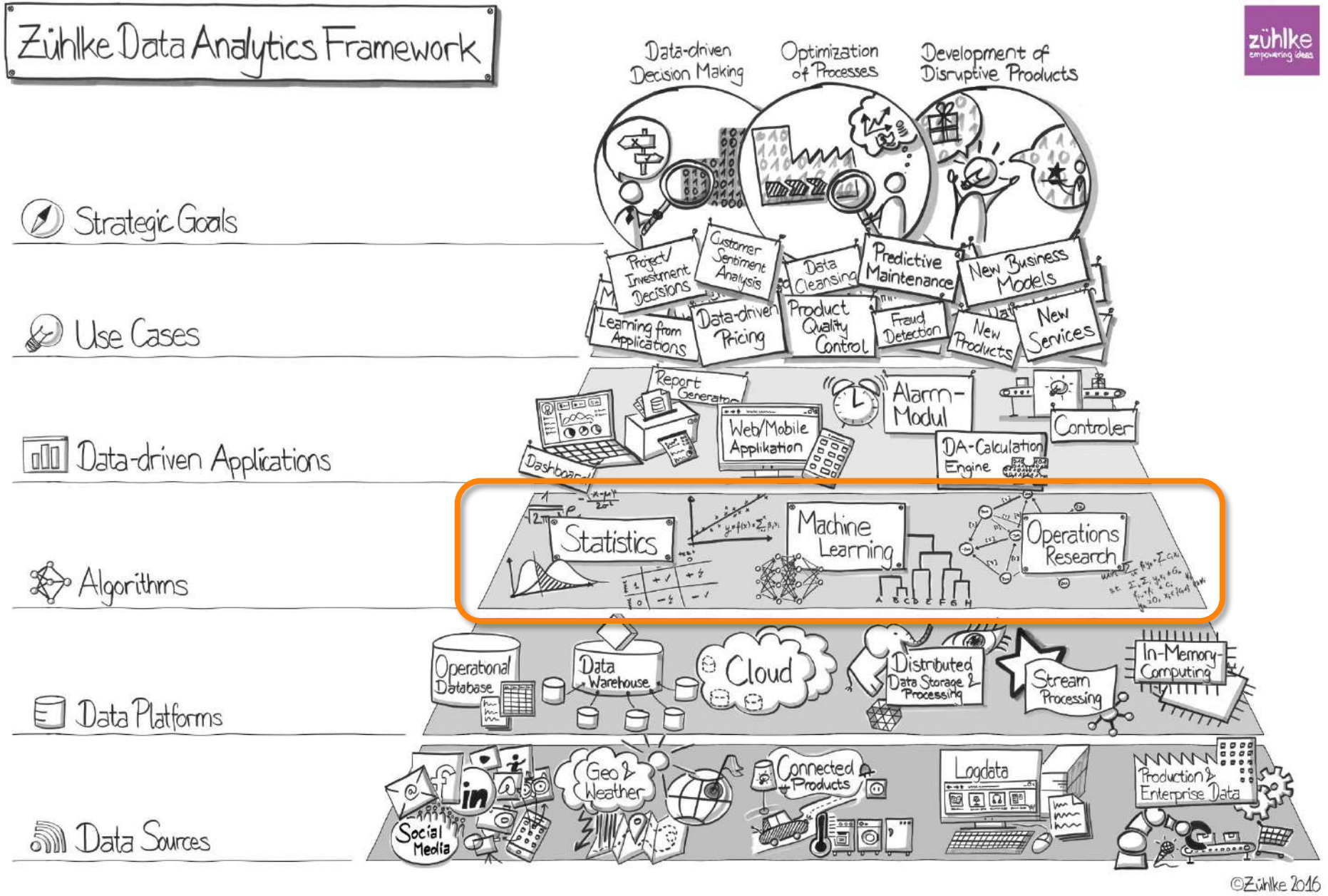

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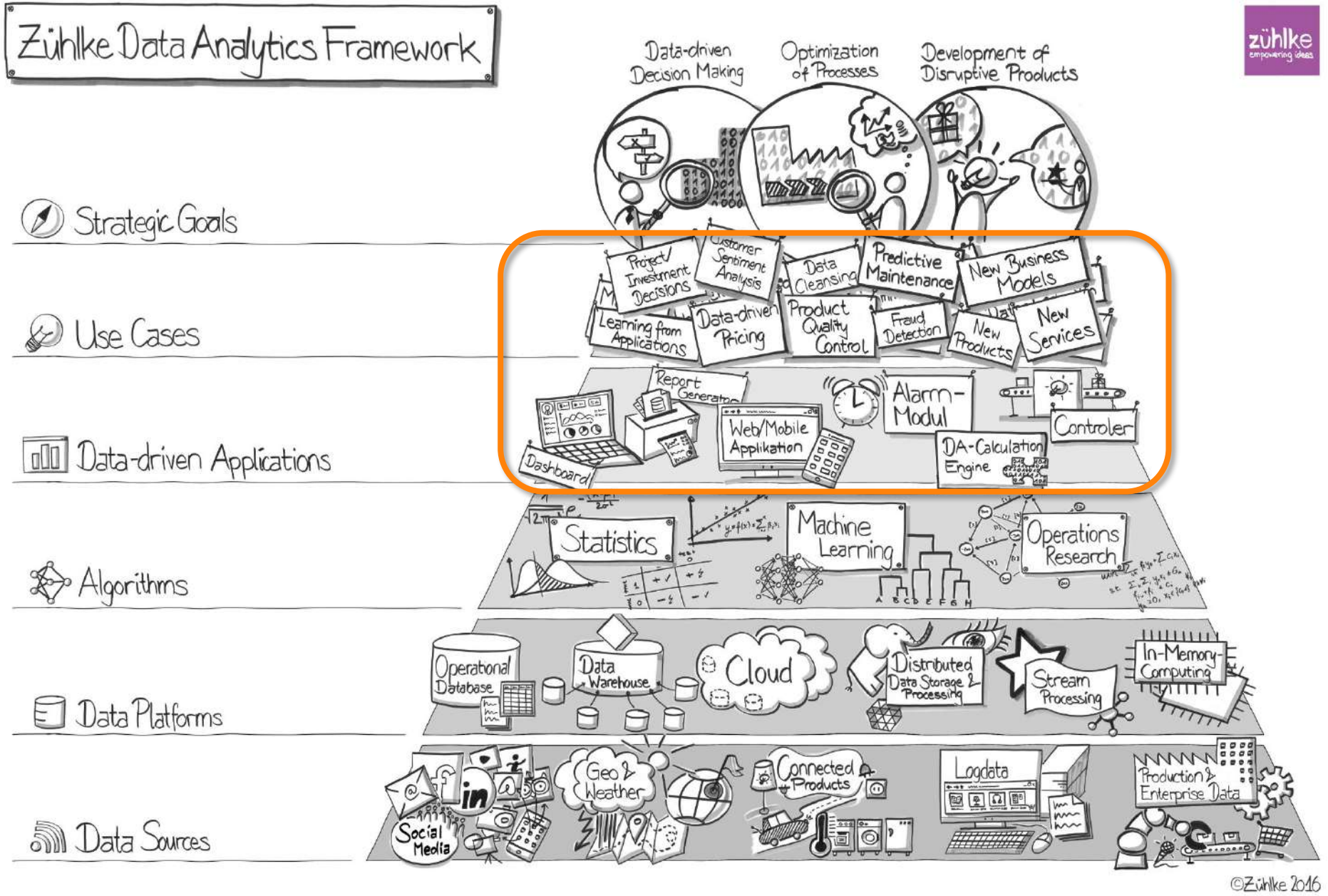
Zühlke Data Analytics Framework
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Data-driven Decision Making
Optimization of Processes
Development of Disruptive Products
Strategic Goals
Use Cases
Data-driven Applications
Algorithms
Data Platforms
Data Sources
Project/ Investment Decisions
Customer Sentiment Analysis
Data Cleansing
Predictive Maintenance
New Business Models
Learning from Applications
Data-driven Pricing
Product Quality Control
Fraud Detection
New Products
New Services
Report Generation
Dashboard
Web/Mobile Applikation
Alarm-Modul
DA-Calculation Engine
Controler
Statistics
Machine Learning
Operations Research
Operational Database
Data Warehouse
Cloud
Distributed Data Storage & Processing
Stream Processing
In-Memory Computing
Social Media
Geo & Weather
Connected Products
Logdata
Production & Enterprise Data
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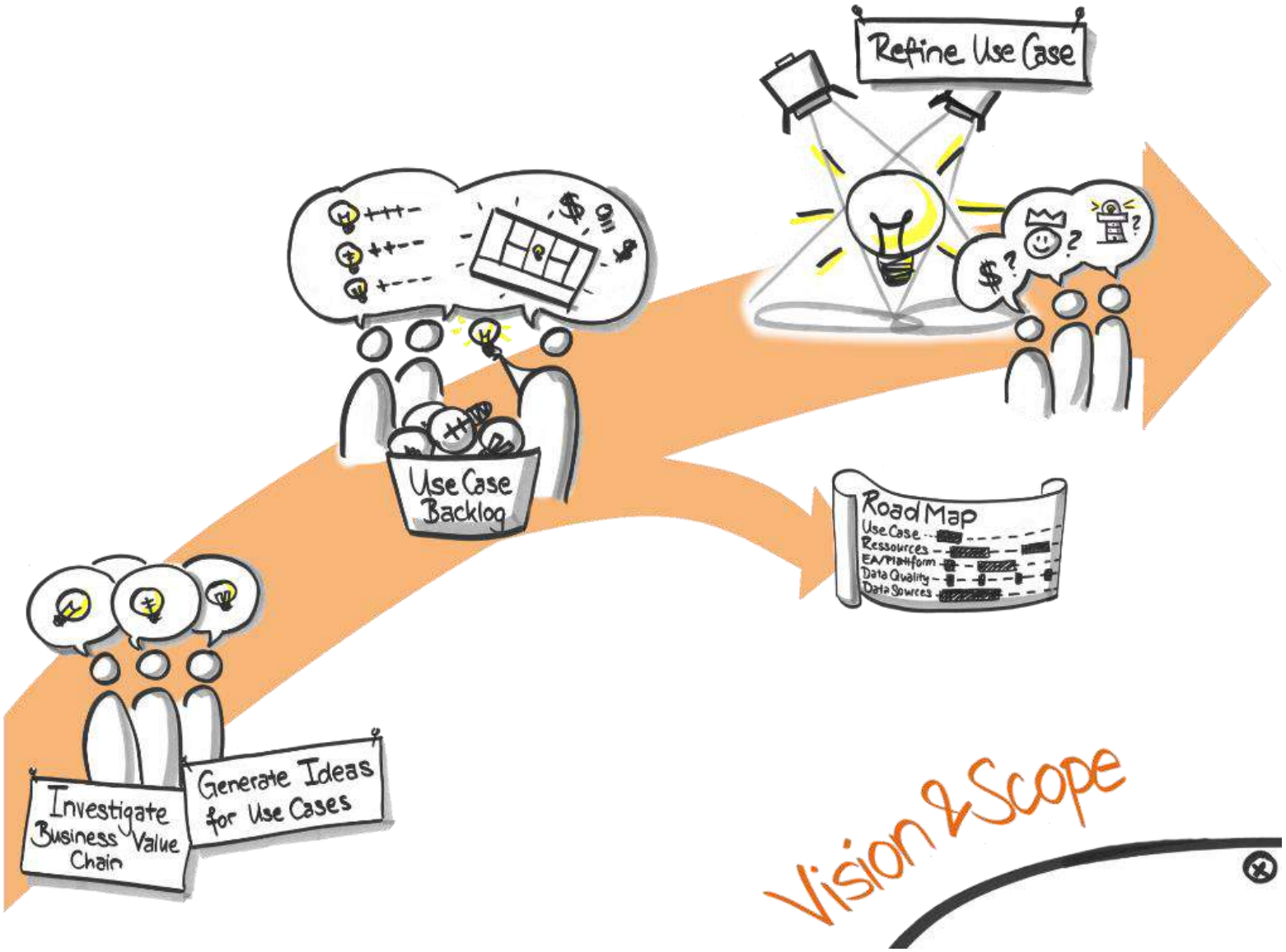
Vision & Scope



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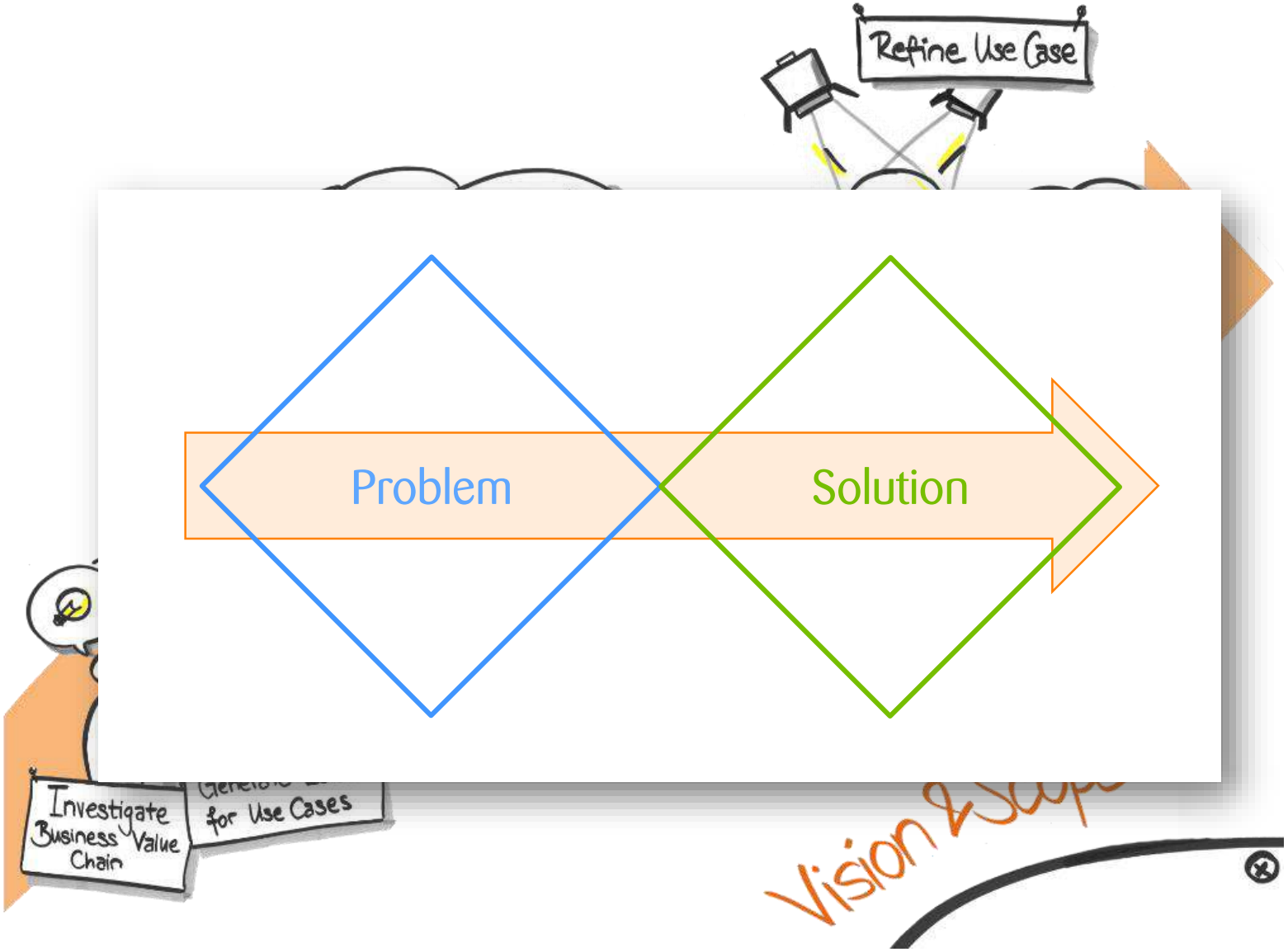
Vision & Scope



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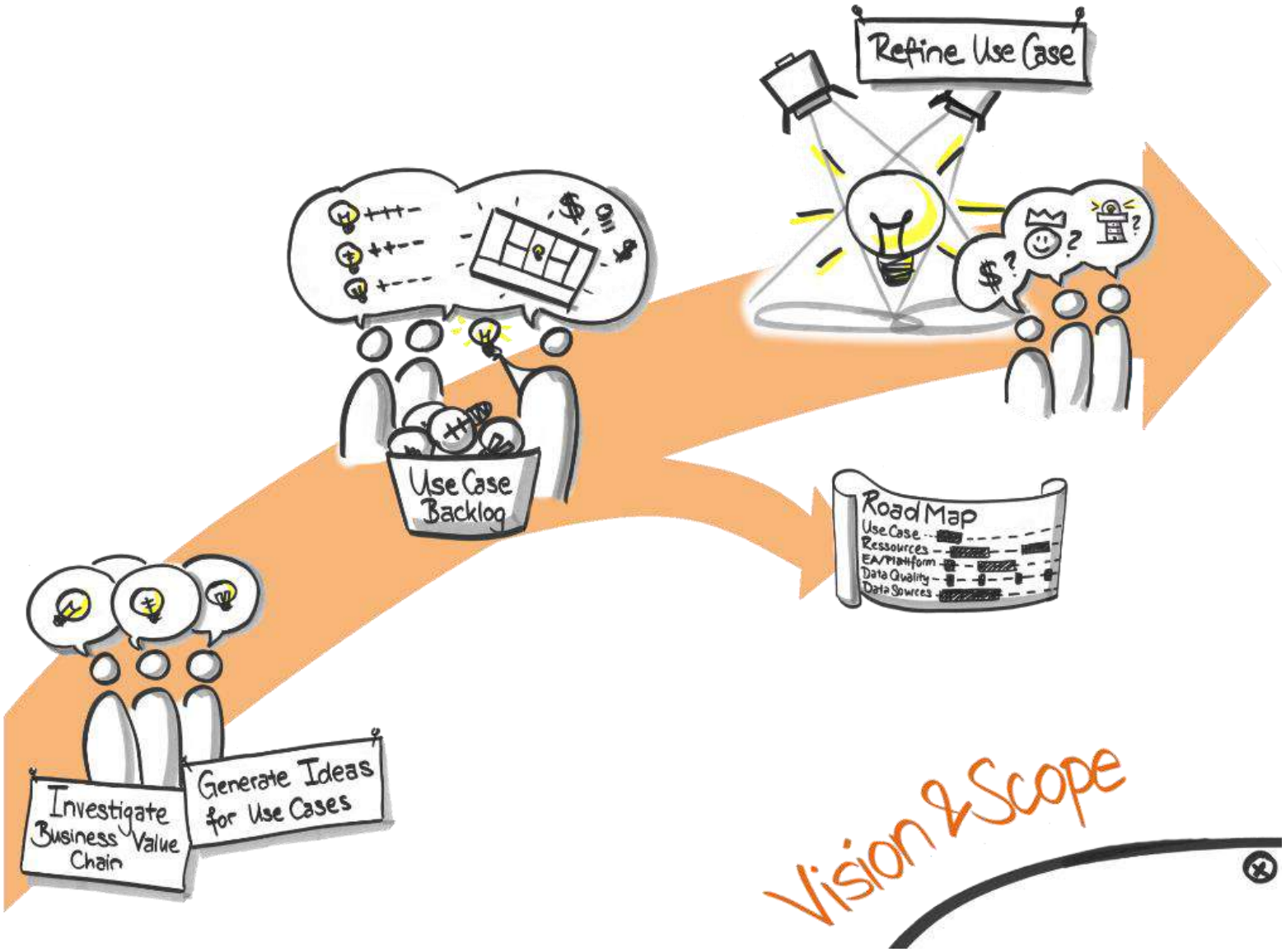

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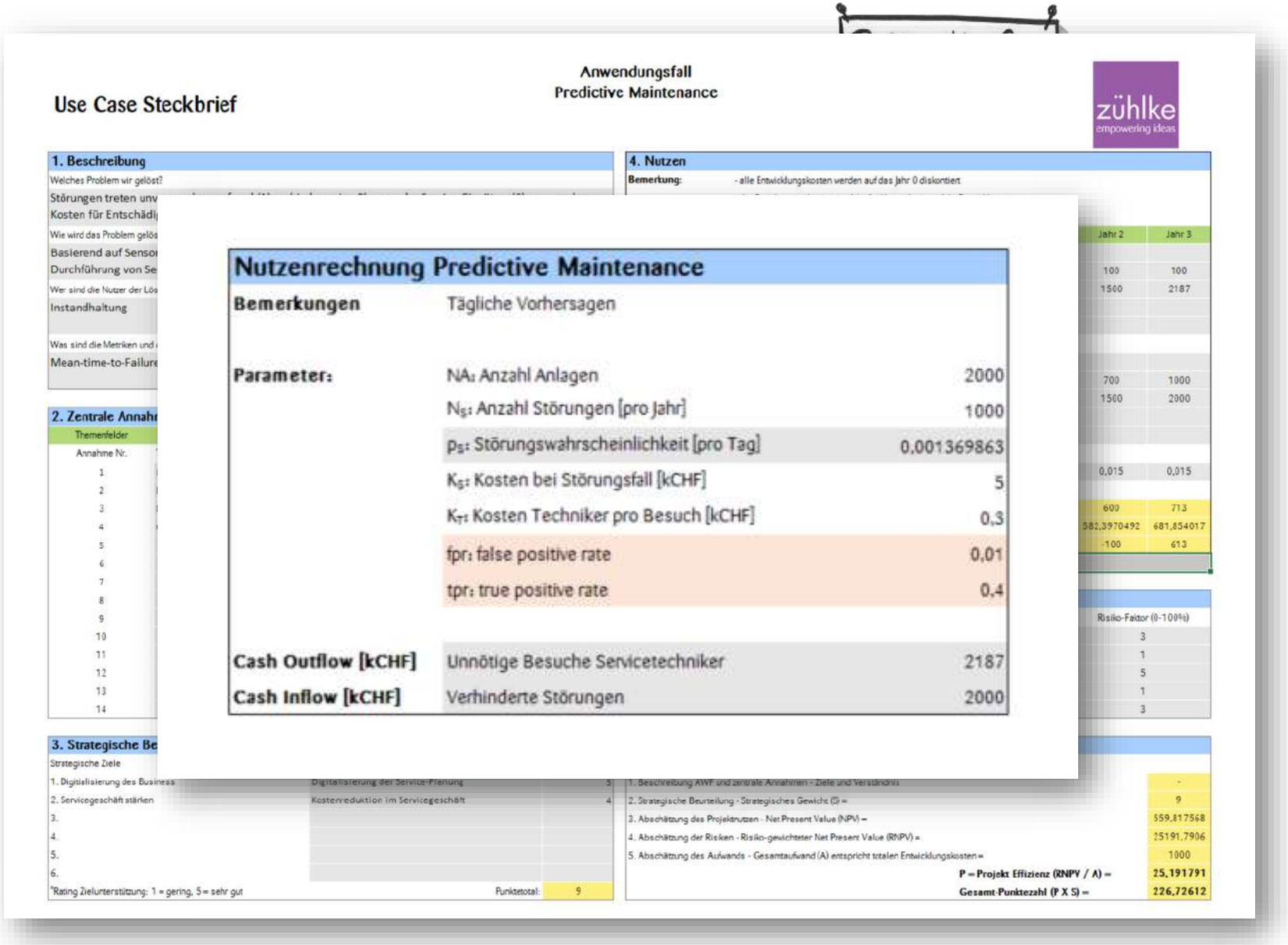

Use Case Steckbrief

Anwendungsfall
Predictive Maintenance

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1. Beschreibung

Welches Problem wir gelöst?

Störungen treten unv

Kosten für Entschädi

Wie wird das Problem gelös

Basierend auf Senso

Durchführung von Se

Wer sind die Nutzer der Lös

Instandhaltung

Was sind die Metriken und

Mean-time-to-Failure

2. Zentrale Annahr

Themenfelder	
Annahme Nr.	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

3. Strategische Be

Strategische Ziele

1. Digitalisierung des Business	Digitalisierung der Service-Planung	5
2. Servicegeschäft stärken	Kostenreduktion im Servicegeschäft	4
3.		
4.		
5.		
6.		

*Rating Zielunterstützung: 1 = gering, 5 = sehr gut — Punktetotal: 9

4. Nutzen

Bemerkung: - alle Entwicklungskosten werden auf das Jahr 0 diskontiert

Jahr 2	Jahr 3
100	100
1500	2187
700	1000
1500	2000
0,015	0,015
600	713
582,3970492	681,854017
-100	613

Risiko-Faktor (0-100%)
3
1
5
1
3

1. Beschreibung AWF und zentrale Annahmen - Ziele und Verständnis -
2. Strategische Beurteilung - Strategisches Gewicht (S) = 9
3. Abschätzung des Projektnutzen - Net Present Value (NPV) = 559,817568
4. Abschätzung der Risken - Risiko-gewichteter Net Present Value (RNPV) = 25191,7906
5. Abschätzung des Aufwands - Gesamtaufwand (A) entspricht totalen Entwicklungskosten = 1000

P = Projekt Effizienz (RNPV / A) = 25,191791

Gesamt-Punktezahl (P X S) = 226,72612

Nutzenrechnung Predictive Maintenance

Bemerkungen	Tägliche Vorhersagen	
Parameter:	N_A: Anzahl Anlagen	2000
	N_S: Anzahl Störungen [pro Jahr]	1000
	p_S: Störungswahrscheinlichkeit [pro Tag]	0,001369863
	K_S: Kosten bei Störungsfall [kCHF]	5
	K_T: Kosten Techniker pro Besuch [kCHF]	0,3
	fpr: false positive rate	0,01
	tpr: true positive rate	0,4
Cash Outflow [kCHF]	Unnötige Besuche Servicetechniker	2187
Cash Inflow [kCHF]	Verhinderte Störungen	2000

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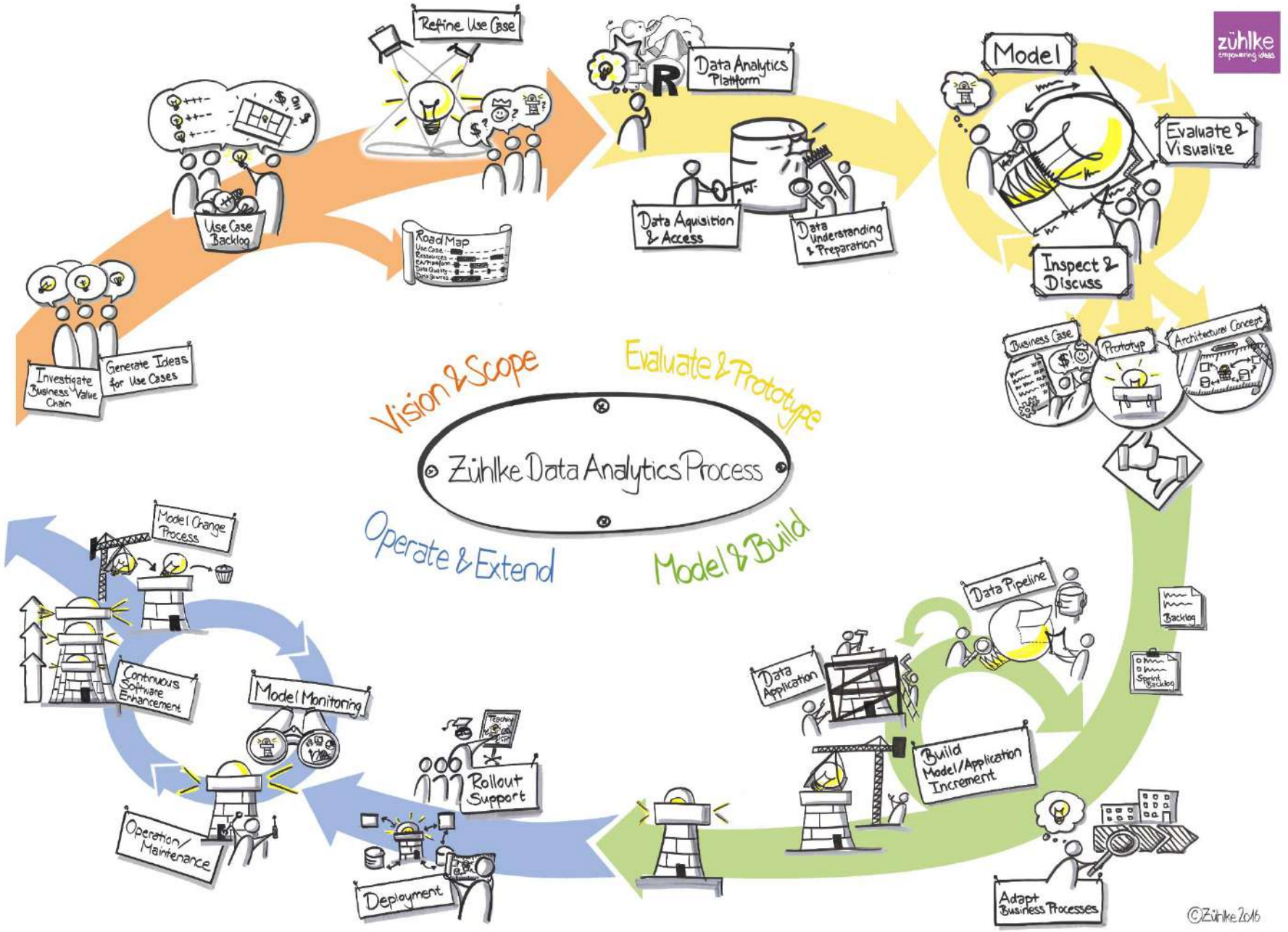
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