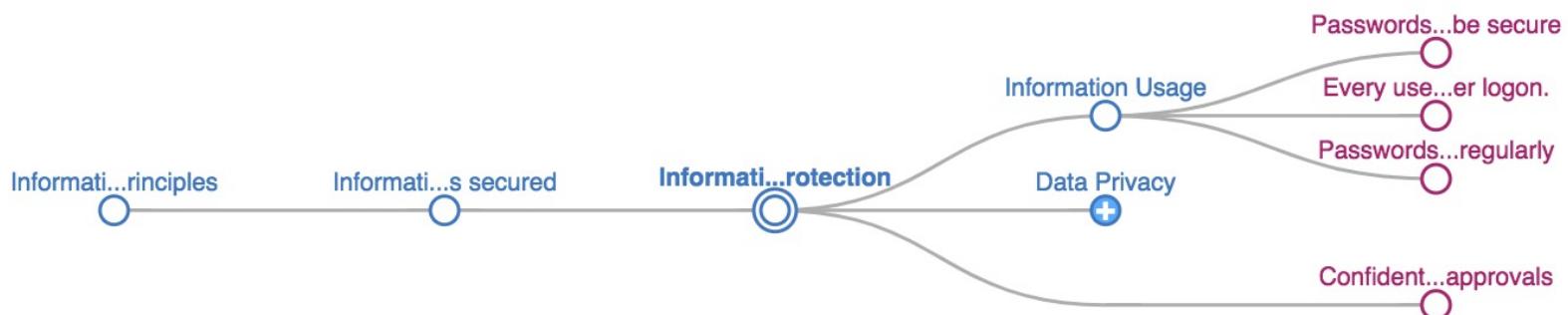


Organize Data

Define & Enforce Governance Policies / Rules



Rules Policies

Search for Rules in the catalog

125 Rules available

Import Rules Create Rule

NAME	CREATED	MODIFIED
Mask an email address by using an auto generated method	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM
Mask a US Social Security Number by using a random method	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM
Mask a French INSEE Number by using a random method	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM
Computer addresses have a valid format	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM

⋮ Details Delete ⋮

Policies

Search for Policies in the catalog

80 Policies available

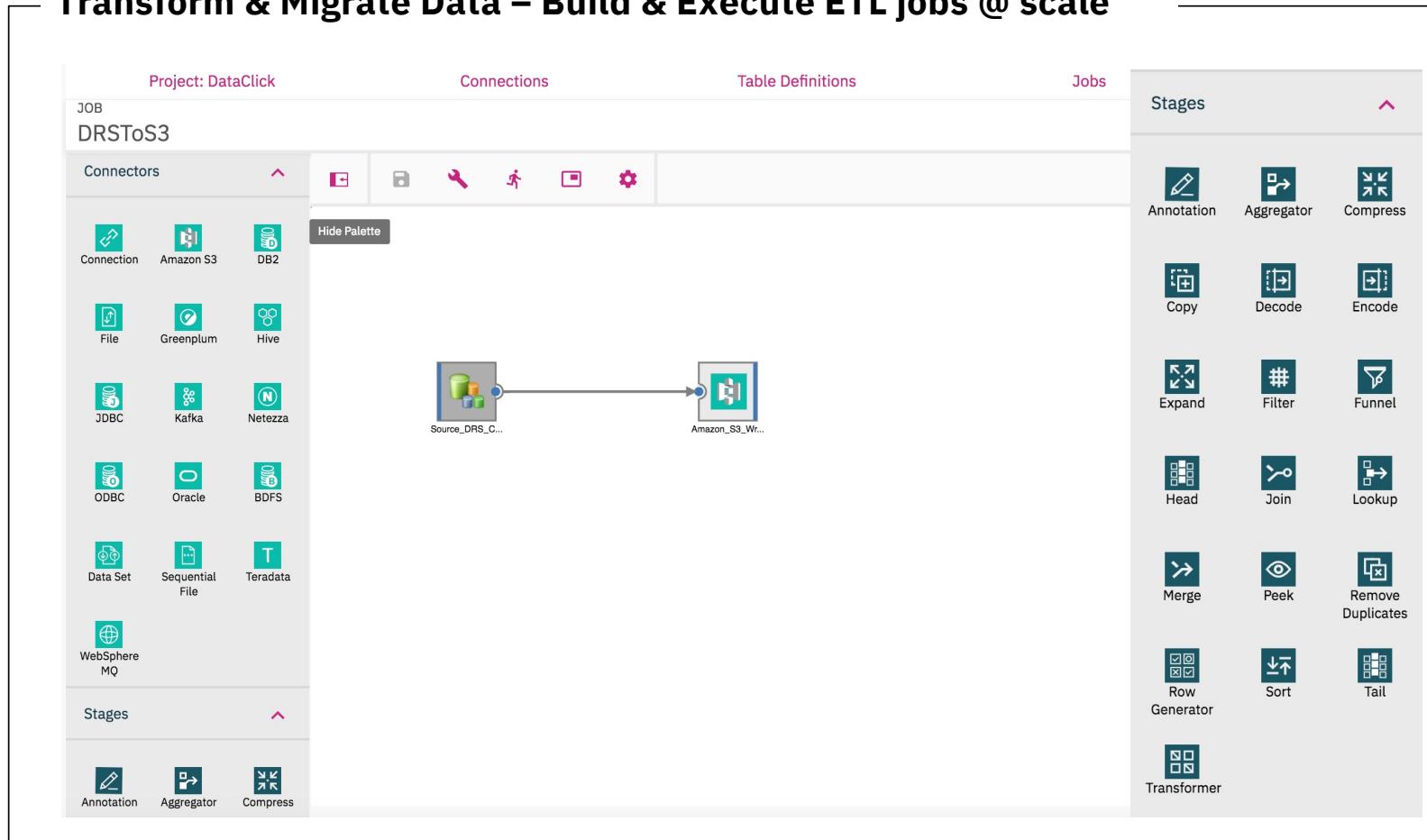
Import Policies Create Policy

NAME	CREATED	MODIFIED
Information Protection	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM
Authoritative Sources provide the best information	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM
Policy Enforcement	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM
Information Supply Chain Integrity	11 Sep 2018, 1:06 PM	11 Sep 2018, 1:06 PM

⋮ Details Delete ⋮

Organize Data

Transform & Migrate Data – Build & Execute ETL jobs @ scale



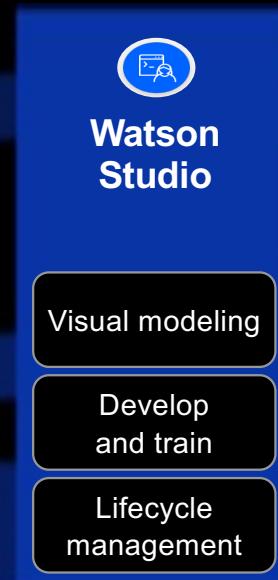
Analyze – Data science

Operationalizing AI with trust & transparency

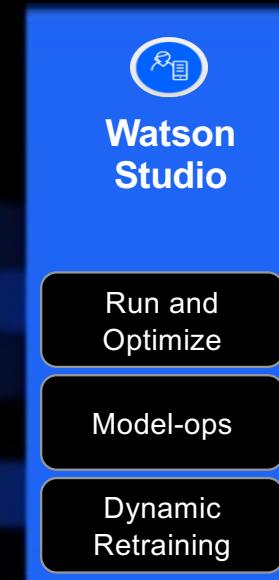
Prepare and Organize Data



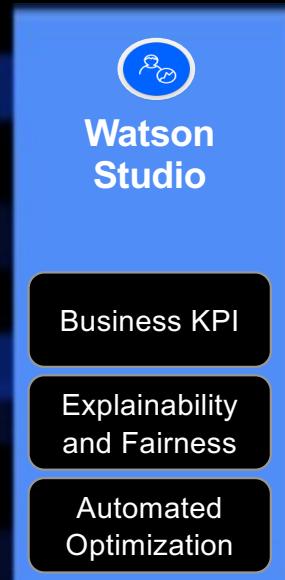
Build and Train AI Models



Deploy and Run AI Models



Manage and Operate Trusted AI



Automated AI Lifecycle

Analyze Data

Build Visualizations & Dashboards

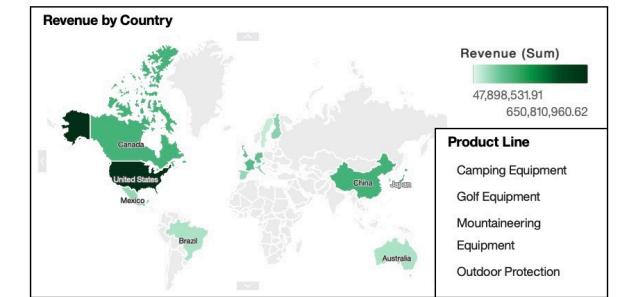
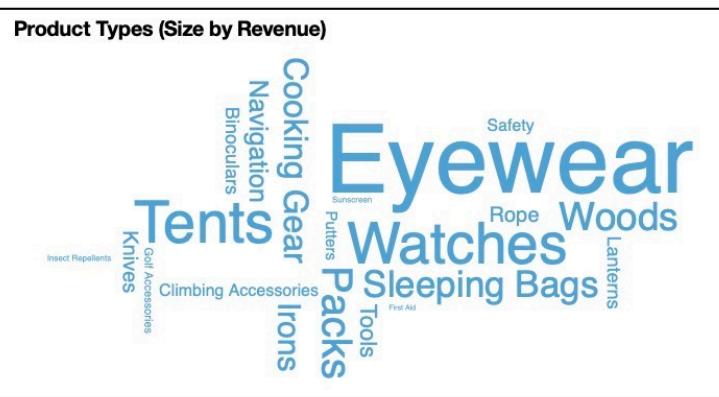
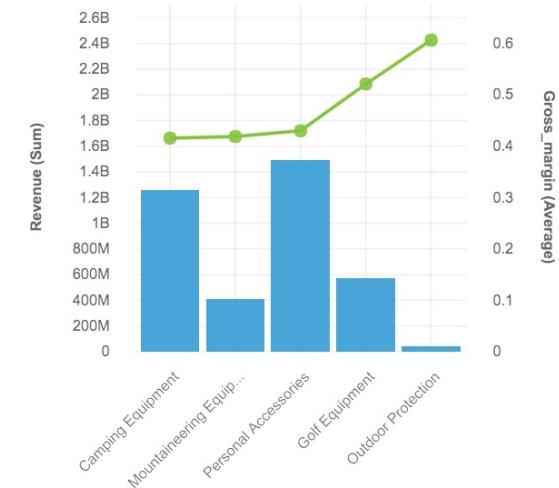
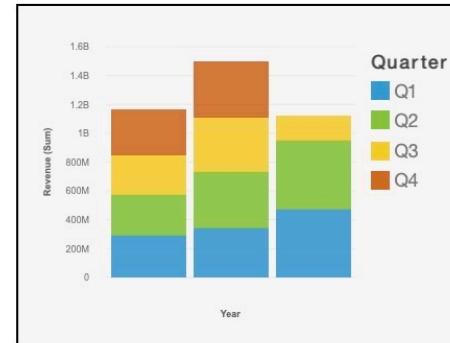
Executive Summary Geo Segmentation Order Type Analysis Margin Analysis

Product Line
Camping Equipment
Golf Equipment
Mountaineering Equipment
Outdoor Protection
Personal Accessories

3.77B
Revenue

69.1M
Quantity

0.41
Margin



Analyze Data

Build , Deploy and manage Data Science & Machine Learning Models

Projects > Oil and Gas > Sensor LOS-model-evaluation.py

Sensor LOS-model-evaluation.py

```
34 threshold = {u'metric': 'areaUnderROC', u'min_value': 0.45, u'mid_value': 0.75}
35
36 # replace "label" below with the numeric representation of the label column that you defined while training the model
37 labelCol = "label"
38
39
40 # create evaluator
41 from pyspark.ml.evaluation import BinaryClassificationEvaluator
42 evaluator = BinaryClassificationEvaluator(labelCol=labelCol)
43
44 # compute evaluations
45 evaluation["metrics"]["accuracyScore"] = predictions.rdd.filter(lambda x: x[labelCol] == x["prediction"]).count() * 1.0 / predictions.count()
46 evaluation["metrics"]["areaUnderPR"] = evaluator.evaluate(predictions, {evaluator.metricName: "areaUnderPR"})
47 evaluation["metrics"]["areaUnderROC"] = evaluator.evaluate(predictions, {evaluator.metricName: "areaUnderROC"})
48 evaluation["metrics"]["threshold"] = threshold
49
50 if(evaluation["metrics"][threshold.get('metric','INVALID_METRIC')] >= threshold.get('mid_value', 0.70)):
51     evaluation['performance'] = "good"
52 elif(evaluation["metrics"][threshold.get('metric','INVALID_METRIC')] <= threshold.get('min_value', 0.25)):
53     evaluation['performance'] = "poor"
54 else:
```

cycle String

setting1 String

setting2 String

FREQUENCY

failure_target

Project releases 1

Sensor-IoT-Online

CREATOR admin

SOURCE Oil and Gas D0model

DEPLOYMENTS 1

LAST MODIFIED 12 Sep 2018, 4:48 PM

Overview API

POST https://lkd-230-1-master-1.fyre.ibm.com:31843/dmodels/v1/sensor/pyscript/sensor-los/score

Deployment token

sensor-los

admin 12 Sep 2018, 10:32 AM

TYPE Web service ASSET Sensor LOS v1 ALLOCATED CPU Unallocated ALLOCATED MEMORY Unallocated REQUESTS 0

Request Response

Function name * score

Body *

```
{"input_json_str": "[{"LoanAmount":12985,"Residence": "Owner Occupier","YearsCurrentEmployer":14,"AppliedOnline": "YES","NumberOfCards":2,"SalePrice":137000,"Income":45715,"YearCurrentAddress":8,"CCDebt":772,"Loans":1,"ID":100282,"Location":100}]}
```

Project releases 1

Sensor-IoT-Online

CREATOR admin

SOURCE Oil and Gas D0model

DEPLOYMENTS 1

LAST MODIFIED 12 Sep 2018, 4:48 PM

Infuse - AI Applications

Accelerate time-to-value with pre-built AI apps

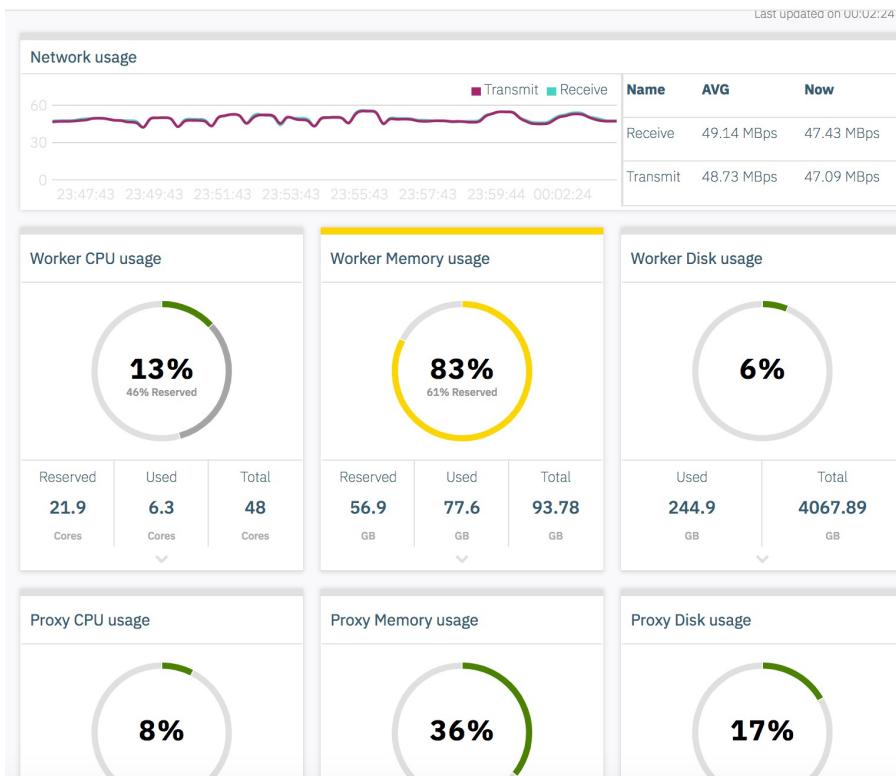


Hyperconverged
Private Cloud Systems

Administer

A single Pane to administer & monitor your data & analytics workloads

Admin Dashboard



Pod list

POD NAME	STATUS	NODE NAME	USED CPU	USED MEMORY	USED DISK
audit-trail-service-56cd98e98d-xgml7	✓	172.16.204.201	0.00	286MB	0B
auth-apkeys-6mrfg	✓	172.16.204.11	0.01	604MB	0B
auth-apkeys-w7mpl	✓	172.16.203.175	0.01	455MB	0B
auth-apkeys-xe2g2	✓	172.16.203.116	0.01	442MB	0B
auth-idp-72hdh	✓	172.16.203.175	0.01	640MB	0B
auth-idp-8mgfb	✓	172.16.203.116	0.01	687MB	0B
auth-idp-ettik	✓	172.16.204.11	0.00	808MB	0B
auth-pap-4jd2	✓	172.16.203.175	0.00	185MB	0B
auth-pap-bfnd2	✓	172.16.204.11	0.00	203MB	0B
auth-pap-wcsts	✓	172.16.203.116	0.00	202MB	0B

Runtimes 5

NAME	RUNTIME TYPE	USER	PROJECT	JOB NAME (RUN ID)	DATE STARTED	CPU (CORES)	GPUS	MEMORY (GB)	STATUS
Jupyter with Python 3.5 for GPU	Environment	admin	Oil and Gas	12 Sep 2018, 7:09 AM	—	—	—	—	●
RStudio with R 3.4.3	Environment	admin	Oil and Gas	12 Sep 2018, 8:54 AM	—	—	—	—	●
Data Refinery	Environment	admin	Oil and Gas	12 Sep 2018, 8:59 AM	—	—	—	—	●
Jupyter with Python 2.7, Scala 2.11, R 3.4.3, Spark 2.0.2	Environment	admin	Oil and Gas	12 Sep 2018, 10:14 AM	—	—	—	—	●
Jupyter with Python 2.7, Scala 2.11, R 3.4.3, Spark 2.0.2	Environment	admin	SF-SAS	14 Sep 2018, 8:54 AM	—	—	—	—	●

The newest generation of Cloud Pak for Data

Scale the value of ALL your data and accelerate your journey to AI with greater trust and productivity

Unlock new insights to more people

Democratize data discovery, understanding and relevancy

Deliver trusted, business-ready data

Dynamically govern data quality, privacy and usage policies

Unify data across hybrid clouds

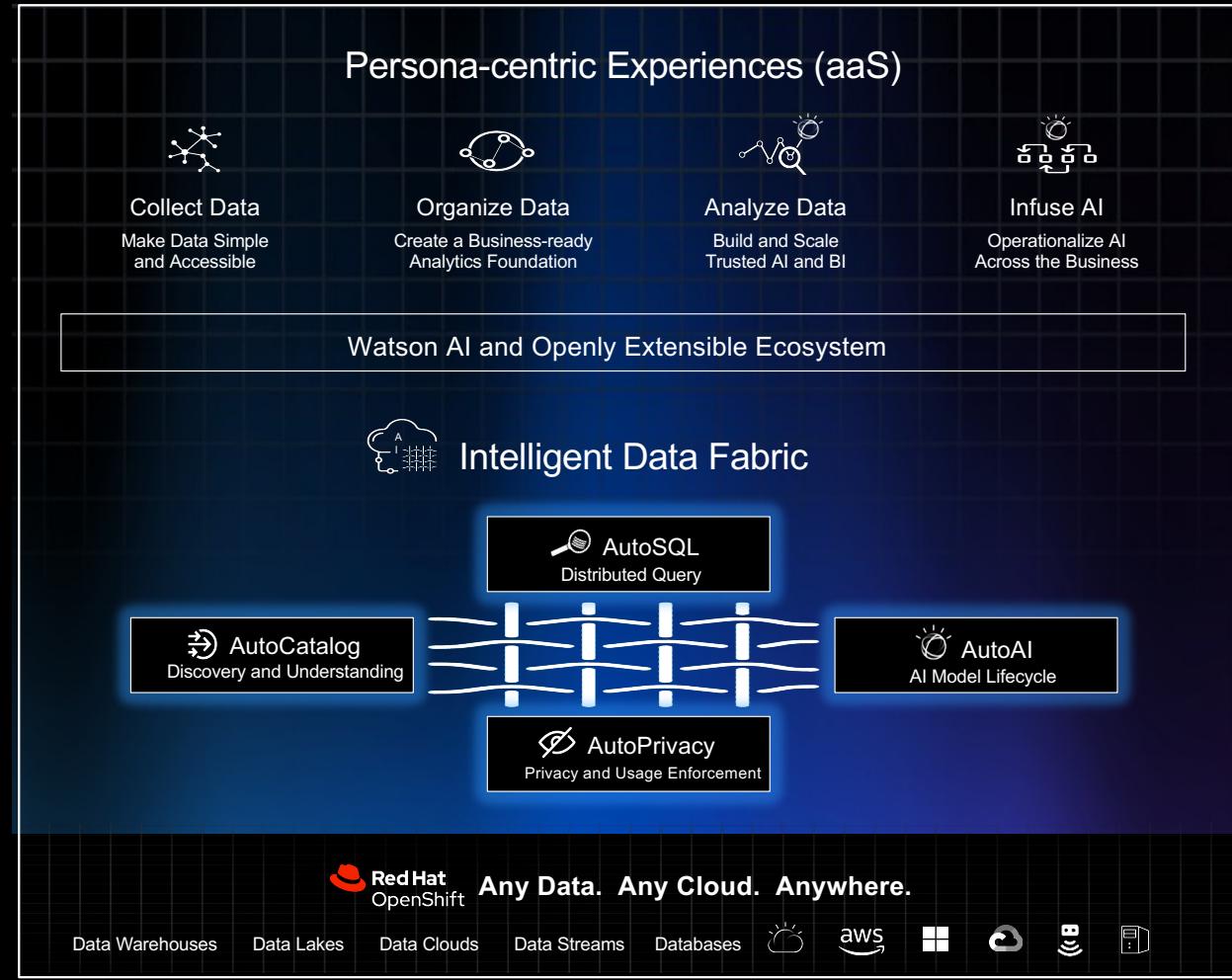
Access and manage diverse data minimizing data movement

Unify and speed data-AI lifecycles

Empower collaborative, persona-centric workflows

Unleash data science productivity

Automate complex tasks, improve quality, lower skill barriers



Automation in Cloud Pak for Data

AutoAI

Automate training, predictive accuracy and explainability for models that reply on siloed data sets and time-variant conditions

AutoPrivacy

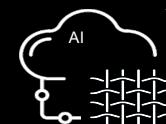
Automate enforcement of universal privacy and usage policies across the ecosystem of sources and consumers

AutoCatalog

Automate data discovery, understanding and enrichment by maintaining real-time knowledge of business-ready data

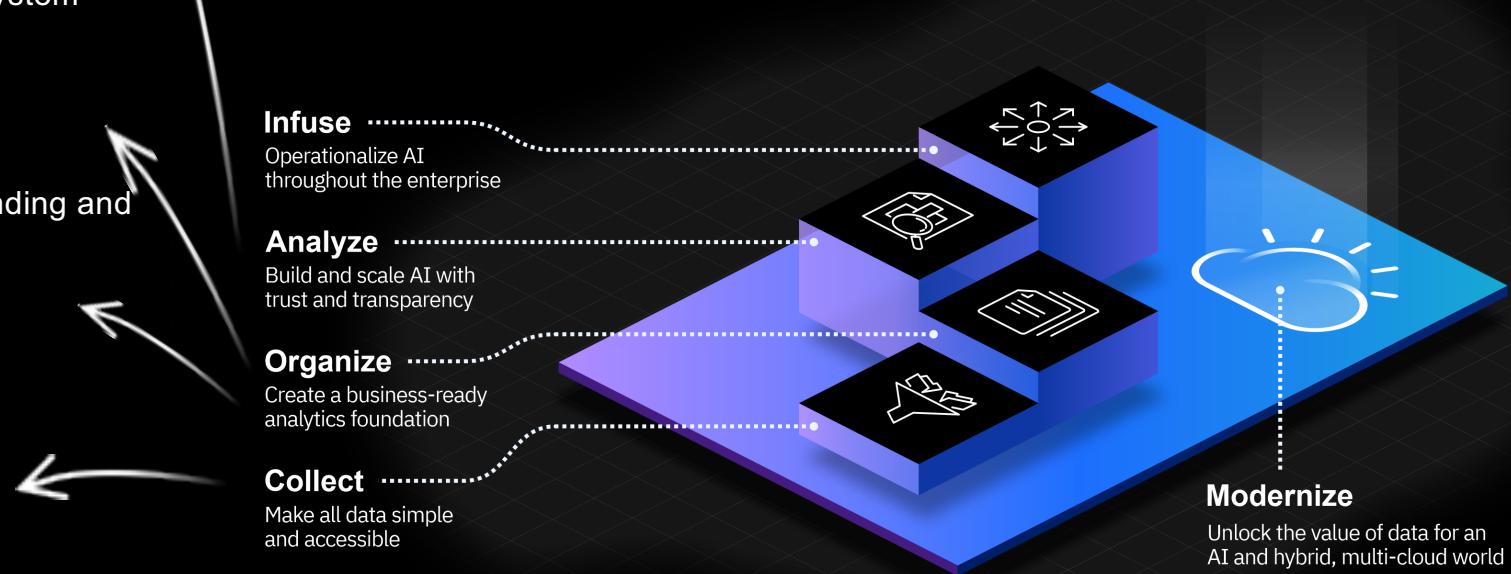
AutoSQL

Automate access to unify data across distributed data/cloud landscapes without data movement



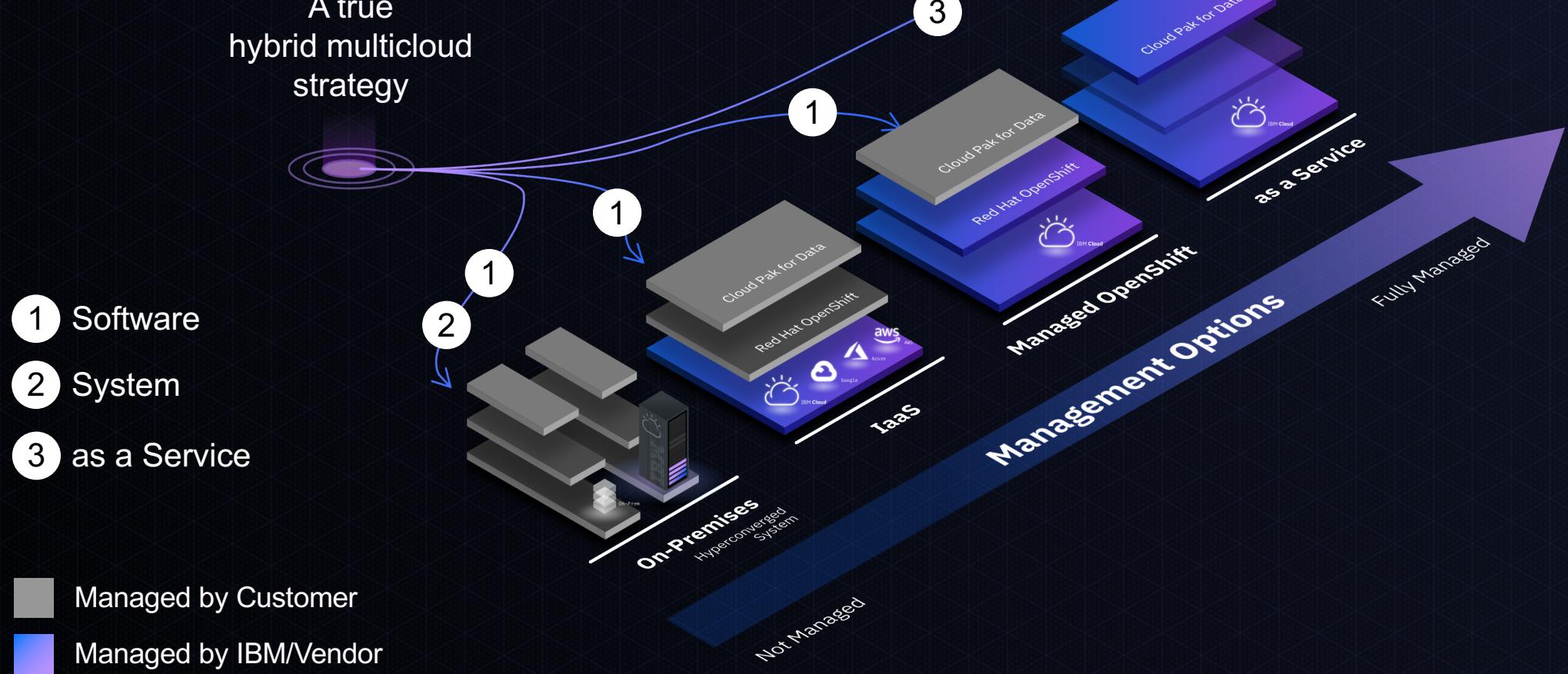
An intelligent data fabric

- Weave together new insights from unified data
- Democratize data usage across more people
- Unleash productivity and reduce cost/risk
- Make AI business easier and faster



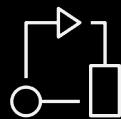
Deploy anywhere

Including as a managed service on IBM Cloud



Cloud Pak for Data as a Service

Fully integrated data and AI platform, delivered as a service



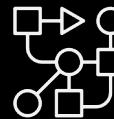
UNIFIED

Simplify the usage and management of essential data and AI capabilities with an integrated and fully managed platform.



GOVERNED

Ensure trusted and secure insights with leading governance capabilities on the cloud for enterprise.



ADAPTABLE

Increase speed and optimize costs with an as-a-Service solution that flexibly adapts to your changing business needs.



AI INFUSED

Empower your team with AI and automation to help augment their skills and accelerate AI development.

Cloud Pak for Data

Top 4 Use Cases



Manage your Data Anywhere



Operationalize Data Science & AI



Shift to Next-Gen workloads



Smarter Governance

1. Manage all your enterprise data regardless of where it lives

(*Data Virtualization*)

2. Gain control & leverage your data from connected devices

(Fast data & *Streaming analytics*)

Build, deploy, manage & govern models & data @ scale to improve business outcomes

(see following slides for details)

- e.g.
 - a. Customer Churn
 - b. Cross Sell / Up Sell
 - c. Predictive Maintenance

Shift to Cloud Native

- a. Provision & scale in minutes
- b. Build once, deploy anywhere – multi cloud support
- c. Built in automation & collaboration to increase productivity

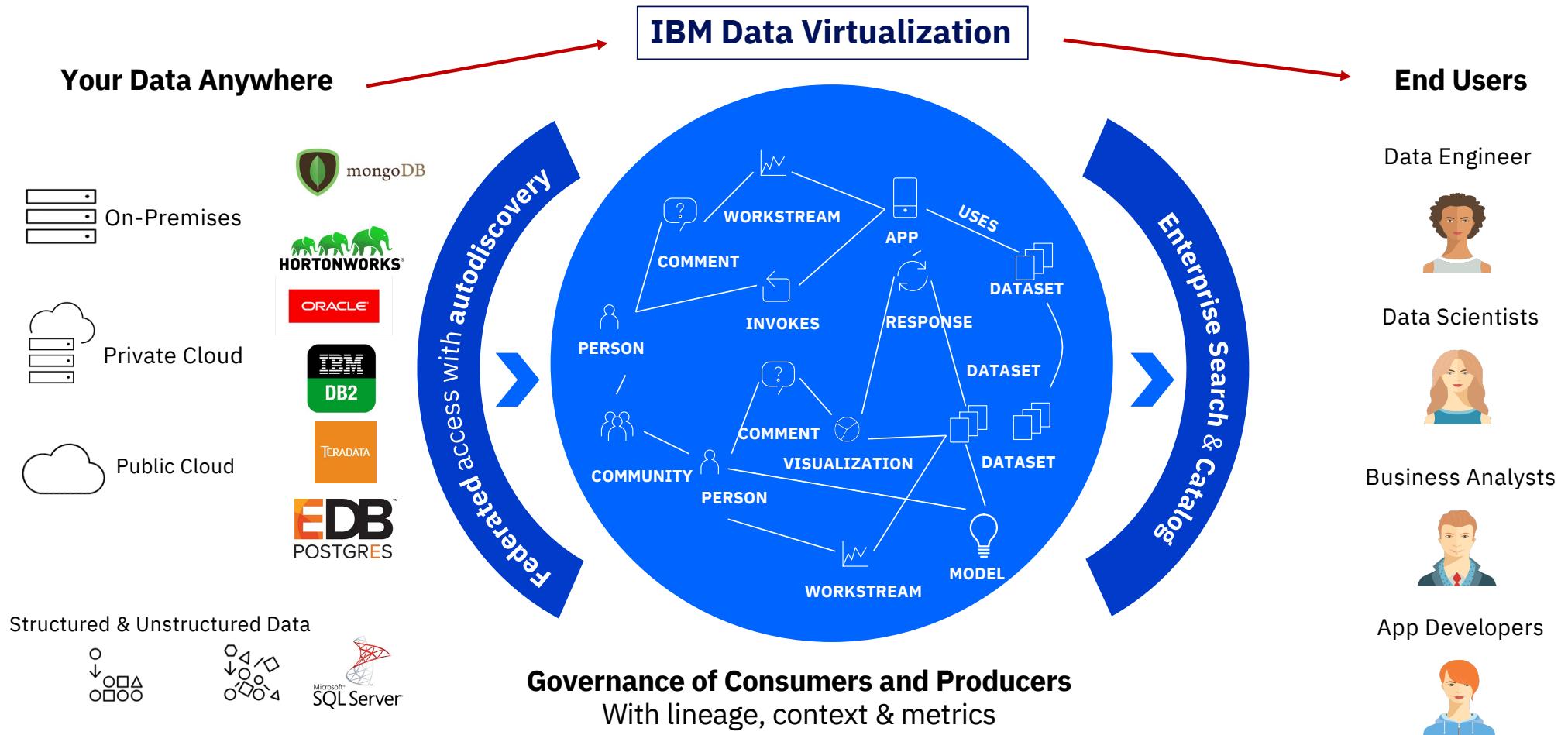
Governance to enable self service analytics

Auto-discover meta data, manage governance rules & policies, enforce privacy etc. to mitigate risk & ensure compliance

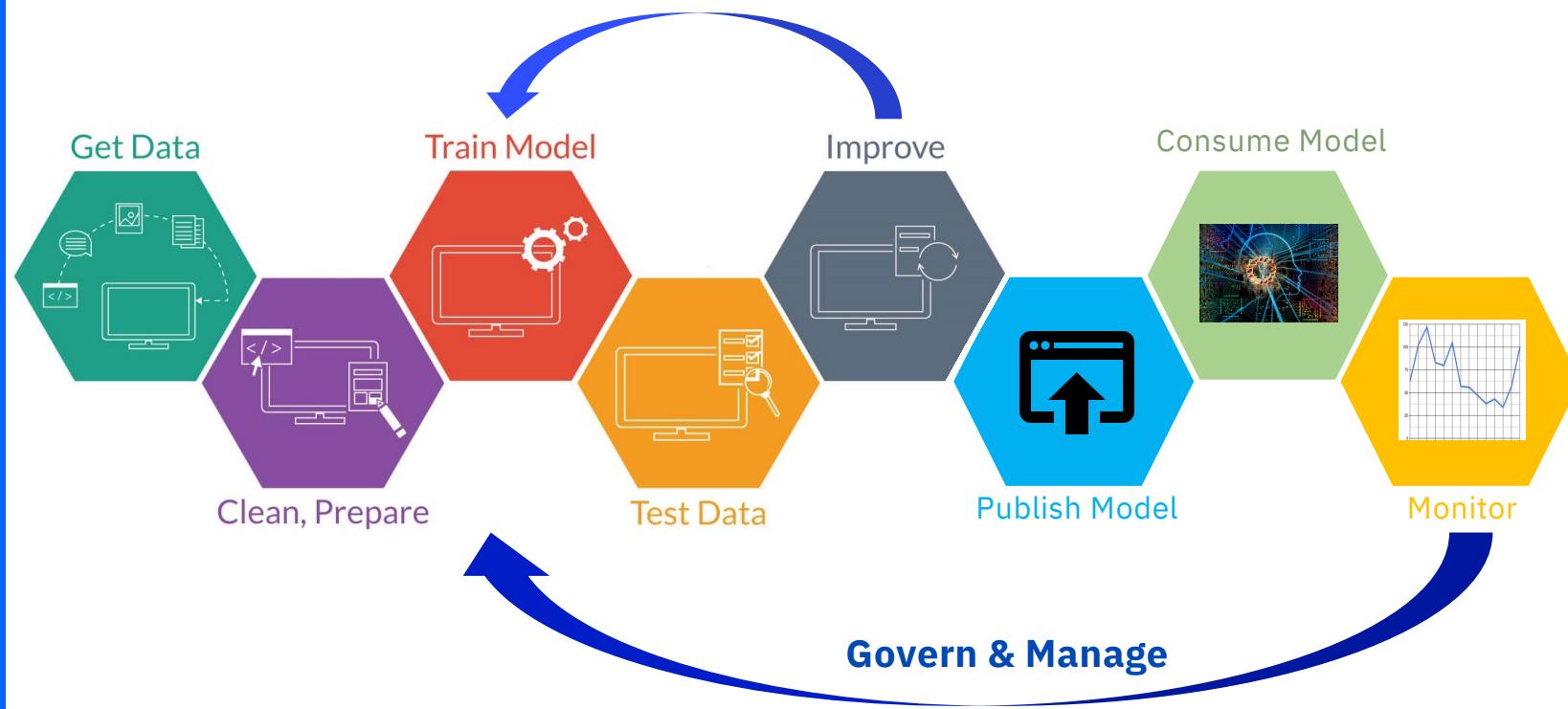
e.g. accelerate GDPR Compliance

Cloud Pak for Data

Use Case: Manage All Your Data – regardless of where it lives



Operationalizing Datasience & AI



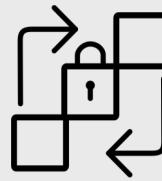
Cloud Pak for Data

Use Case: Modernize your Data & Analytics Workloads – monolithic to microservices



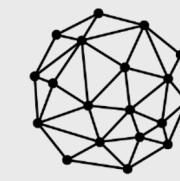
Reduce Costs

Run your **data & analytics services more efficiently** – single product stack and better resource utilization



Ship Faster

Increase agility and respond to changing business requirements through **DevOps** and **continuous delivery**



Increase Productivity

Enable **governed self-service**, collaboration, and provisioning, **across teams** on an integrated platform

Shift from Monolithic to Microservices for agility and efficiency

Cloud Pak for Data

Use Case: Compliance Readiness – accelerate transformation for compliance

Regulatory Compliance GDPR



- GDPR **applies globally**
- Potential **cost of not being compliant** is up to 4% of your organization's global revenue
- GDPR is in effect starting **May 25, 2018**



Cloud Pak for Data Out-of-the-box services

- Sensitive data discovery
- Data cataloging
- Data protection
- Compliance dashboards
- Record of processing



Integrate Optionally Thorough ecosystem

- Regulatory readiness dashboards
- Purpose & consent management
- Subject access rights
- Incident response

IBM