

KNIME DataHop

Automating the Audit Process with KNIME

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do your thing

Agenda



ING and Internal Audit



Maturing the use of KNIME



Automating the Audit Process



Integrated Data Acquisition and Tests



Documenting Audit Planning



Lessons learned

ING is a global financial institution with a strong European base, offering **retail and wholesale banking services** to customers.

Bank's Headquarters are in Amsterdam (The Netherlands)

More than...

39.2 million

customers

15.6 million

primary customers

60,000

employees

40

countries



Internal Audit at ING

People

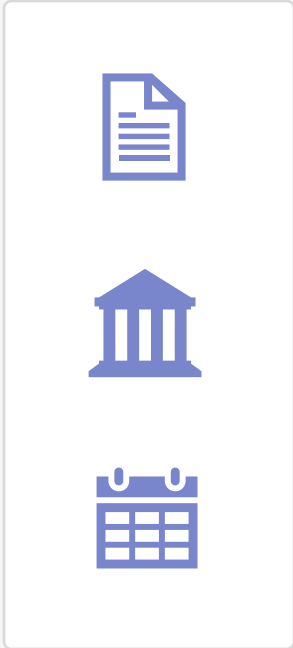


400+ staff

44 teams

20+ locations

Audit Universe



450+ audits

1179 auditable entities

6-10 weeks (duration)

The Audit Process

Annual
Audit Planning

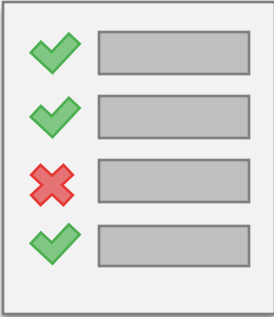


450+ audits per year

Preparation



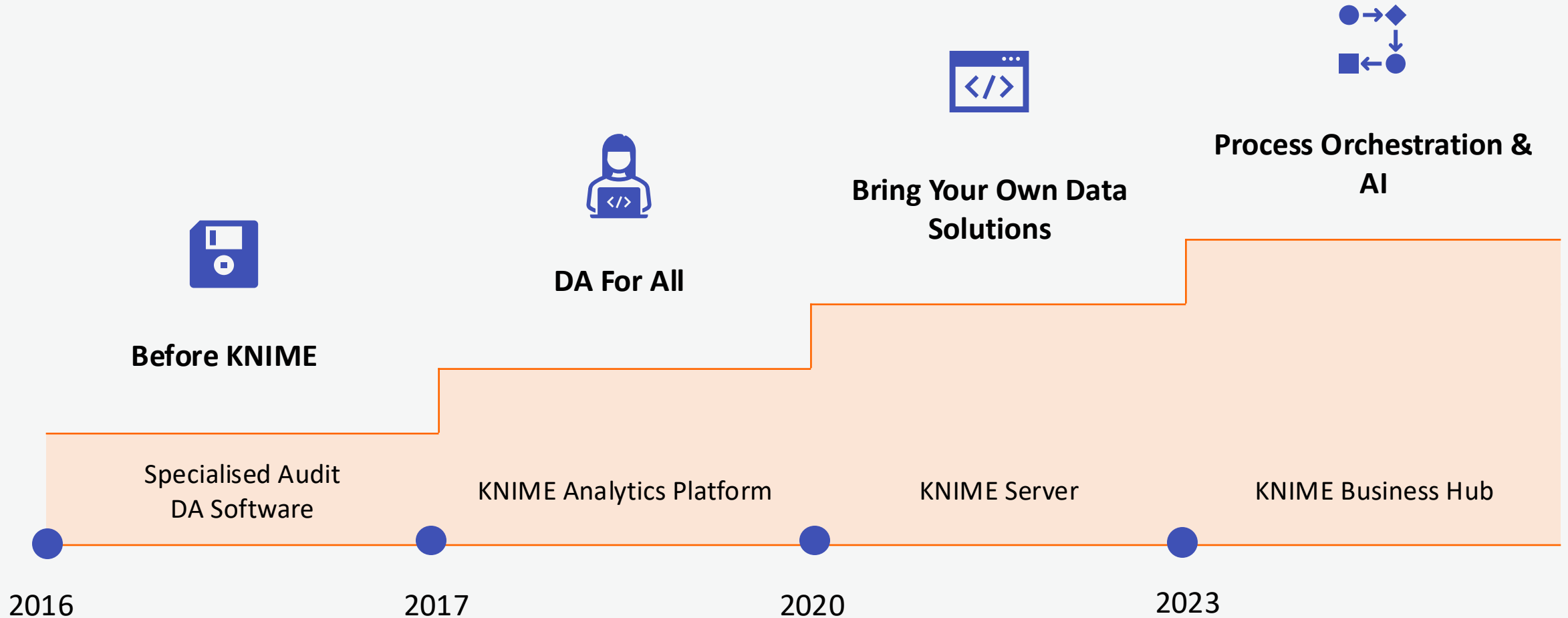
Testing



Reporting



Maturing the use of KNIME



Automating the Audit Process

Audit Planning



Preparation



Testing



Reporting



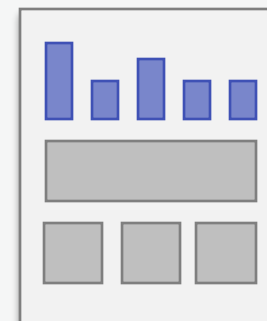
KNIME for Data Analytics

KNIME for Orchestration and AI

Excel

Word

Manual Input



Audit Documents

Audit File
(Audit Management System)

Integrated Data Acquisition and Tests

Data Acquisition

Emails

CSV files

Scope

Multiple excel files

Data Definition

FATCA-CRS Audit Data Reader



KYC Audit Data Reader



FM Sales Audit Data Reader



Amazon Authenticator



Amazon S3 Connector



Parquet Reader



Options | Flow Variables | Memory Policy | Job Manager Selection

Sales Location:

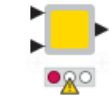
Date From:
Date:

Date To:
Date:

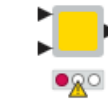
Example

Data Driven Tests

FM Sales - CDD Module



FM Sales - ESR Module



Python Script



Example

Documentation

Tests Results

Test Logic

Storage

Save to Audit File



Table Writer



Variable to Table Row



Files to Binary Objects

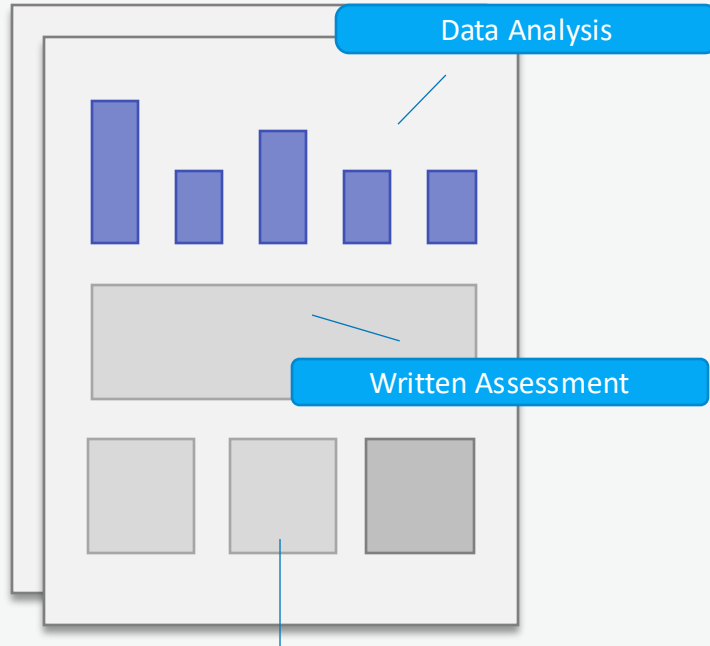


POST Request



Example

Documenting Audit Planning



Conclusion (scope impact)



Pre-populated template?

Phase 1

Empty template based on:

- Audit Information
- Sections to be filled

Audit Info Reader



Field	Value
String	String
Auditable Entity	AE XXXX
Audit Name	Audit of XXXXX
Team	Retail NL
Category	Regulatory

Phase 2

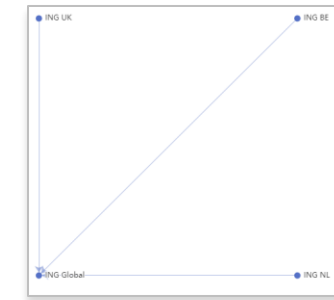
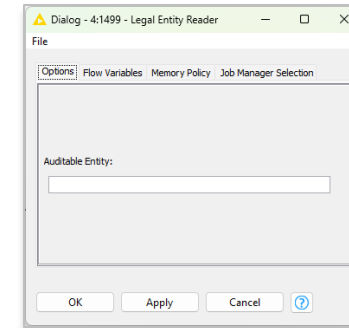
Automate individual sections:

- Source the data used as input
- Prepare charts and tables

Legal Entity Reader



Legal Entity Viewer



Phase 3

Use of Gen AI to:

- Include assessments based on previous work
- Common reporting language

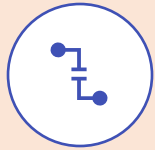


Python Script



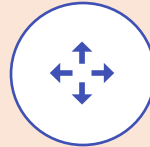
Lessons Learned about Automation and Integration

Divide & Conquer



- Divide solutions into modules
- Create reusable components

Adaptability



- Think of scaling and adding new features
- Capture business changes that have impact

Look for Value Added



- Balance what is possible with what is needed
- Symptoms:
 - Repetitive tasks
 - Limited IT systems