



Natural Language Generation for Financial Services

NLG at Scale for Augmented
Value Creation

With David Sciamma
SVP Product of YSEOP

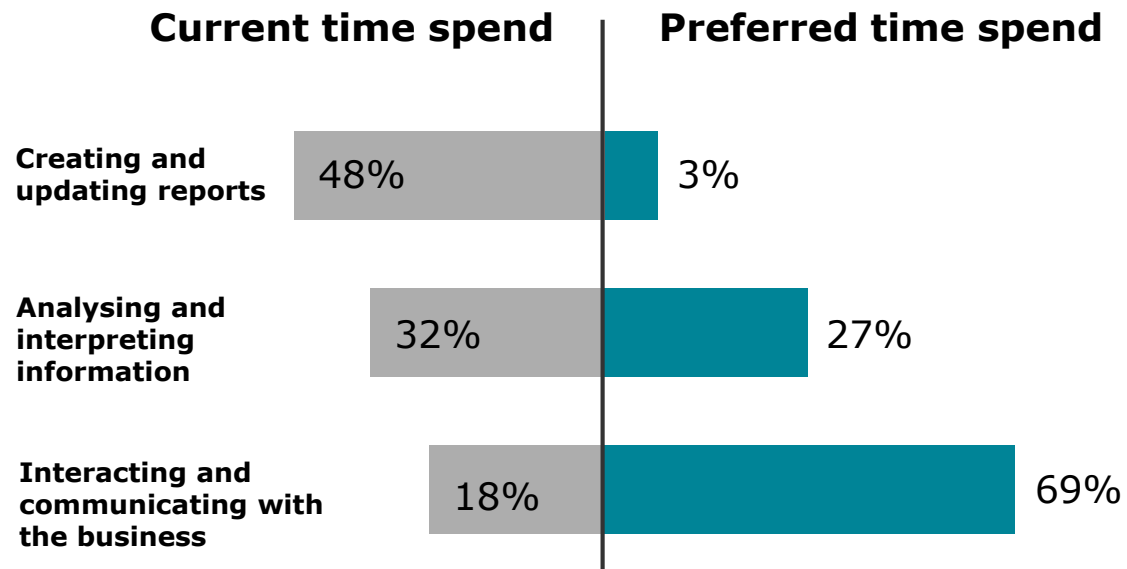
LTI Summit 2019, June 24

Yseop, Pioneer Of Natural Language Generation (NLG)



The need for change to better meet business needs

How Finance teams spend their time



“ The laborious grind of management and financial reporting today likely won't exist in the future. People will be insight generators, not report builders. ”



AUGMENTED ANALYST

IS DESIGNED
TO FREE
BUSINESS ANALYSTS
FROM TIME-CONSUMING
MANUAL REPORTING

BOOST PRODUCTIVITY

Do more, Faster

DECISION MAKING

Better visibility & understanding

QUALITY

Do more, do better

AUGMENTED ANALYST - INTRODUCING INTENTIONS

DIMENSIONS

- Geographies (+)
- Time (+)
- Entites(+)
- Business lines (+)

INDICATORS

- Underlying earnings before tax from insurance activities (-)**
 - Investment margin
 - Fees & revenues
 - Net technical margin
 - Expenses
 - Amortization of value of purchased life business inforce
- Underlying earnings before tax from other activities (+)**
- Underlying earnings Group share (+)**
- Adjusted earnings Group share (+)**
- Net income Group share (+)**

Template set-up by the expert

Underlying Earnings

Underlying Earnings correspond to adjusted earnings without the following elements net of policyholder participation, deferred acquisition costs, VBI, taxes and minority interests:

- realized gains and losses and change in impairment valuation allowance (on assets not designated under fair value option or trading assets); and
- cost at inception, intrinsic value and pay-off of derivatives involved in the economic hedging of realized gains and impairments of equity securities backing General Account and shareholders' funds.

(3 - F&G) Underlying earnings amounted to €3,298 million, up €128 million (+4%) versus 1H17 on a reported basis. On a constant exchange rate basis, underlying earnings increased by €290 million (+9%) supported by all geographies.

(1 - F) On a constant exchange rate basis, underlying earnings before tax from insurance activities increased by €400 million (+10%) to €4,284 million:

(1.1 - A,J&G) Lower investment margin (€-27 million or -1%) primarily in Europe (€-37 million) from Switzerland (€-32 million) mainly due to lower income from fixed income assets, partly offset by International (€+9 million) mainly in Turkey (€+8 million) stemming from both higher interest rates and average asset base;

(1.2 - A,J&G) Higher fees & revenues (€+385 million or +10%) primarily from higher Unit-Linked management fees (€+187 million). The overall fees & revenues growth was mainly driven by (i) the United States Life & Savings (€+251 million) mainly from higher Unit-Linked management fees reflecting higher average balances from favorable equity markets combined with unlocking and reactivity impacts of model and assumption changes (fully offset by Deferred Acquisition Costs), (ii) Asia (€+82 million) mainly in Hong Kong (€+51 million) following positive equity market performance notably in 2H17 and Japan (€+29 million) mainly due to in-force growth and new business, and (iii) France (€+38 million) due to higher Unit-Linked management fees reflecting a higher asset base;

Manually input text section part of the template

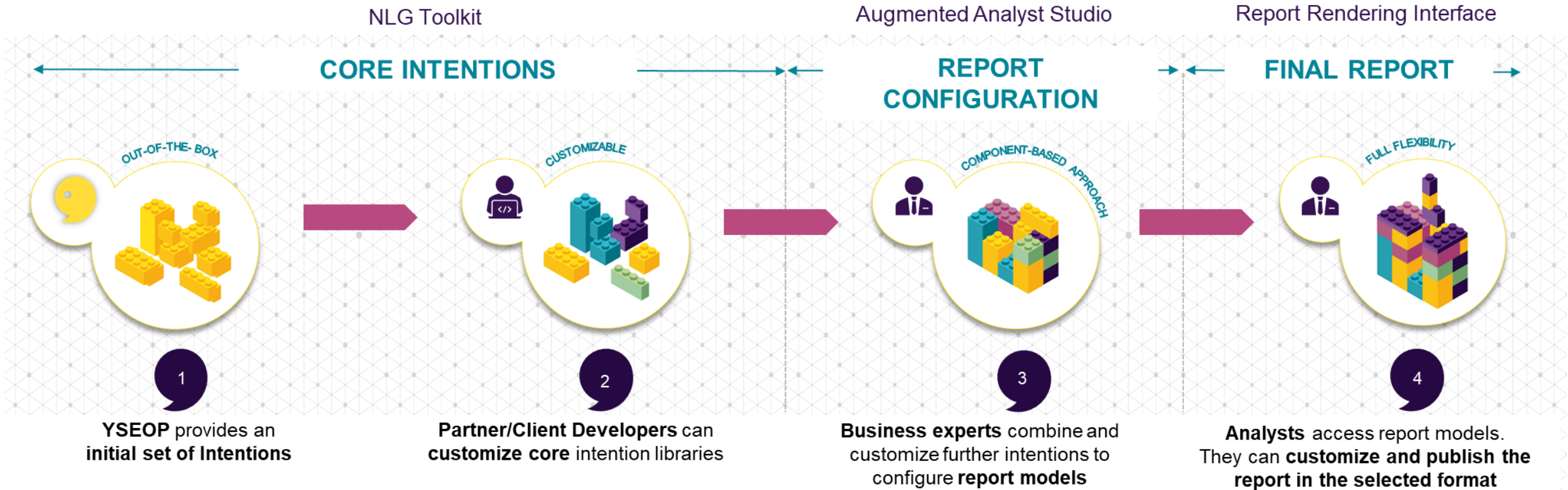
INTENTIONS

- CompareValueWithReference
- DescribeAverageValue
- DescribeContributionInRelation
- DescribeRatioVariation
- DescribeValue
- DescribeVariation
- DescribeVariationContributors
- DescribeThreeMetricsCorrelation
- DescribeTwoMetricsCorrelation
- ImportanceTo
- DescribeValueContributors

Text sections are generated with the combination of Indicators and Intentions.

Example: AXA Half Year Financial Report

AUGMENTED ANALYST - STEPS TO BUILD A REPORT



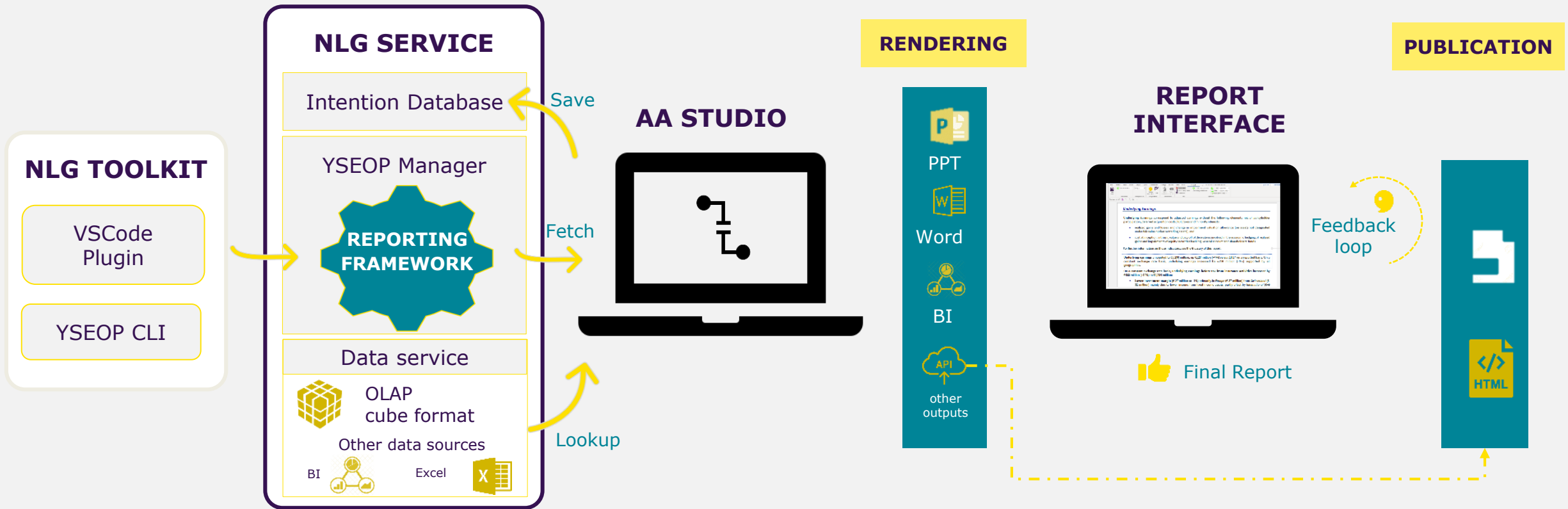
Reports can be designed, combined and enriched throughout the workflow

AUGMENTED ANALYST ARCHITECTURE

DEVELOPER

BUSINESS EXPERT

ANALYST



- ▶ CORE INTENTIONS CUSTOMIZATION
- ▶ DATA INPUT MANAGEMENT



- ▶ INTENTIONS ADMINISTRATION
- ▶ REPORT MODEL CONFIGURATION



- ▶ REPORT CUSTOMIZATION
- ▶ PUBLICATION

AUGMENTED ANALYST - REPORT CONFIGURATION

Augmented Analyst Studio

▶ **Global filter**

Geographic area (all) ✕

Operating division (all) ✕

▶ **Period filter**

2017 2018

PARAGRAPH AA ASSISTANT

Select Intention

Describe value, variation, contributors
▼

Value

write owner

Show value

start

end

Contributors

Type :

main

antagonist

Variation

show percent change

Show date

start

end

Number :

↕

↕

Threshold :

↕ percentage important

force dimension label :

none
▼

NEXT STEP

The good bank activity report
✎

+

1 - Key performance insights ⋮

Revenues totaled 42,516 million euros, down by 1.5% compared to 2017. In the operating divisions, revenues were down by 0.9%: they were down slightly at Retail Banking (-0.2%) up at International Financial (+3.4%); but down at CIB (-7.5%).

+

At 30,583 million euros, the Group's operating expenses were up by 2.1% compared to 2017. They included the exceptional 1,235 million euro impact of businesses' transformation costs and acquisitions' restructuring costs (957 million euros in 2017).

2 - Revenues by operating divisions ⋮

Revenues at 15,683 million euros, were down by 0.2% compared to 2017. The retail Banking revenue of Europe decreased by 0.2%. The decrease of 0.2% in retail banking revenues was mainly caused by an increase in the specialized businesses despite a 0.9% decrease in the retail networks' costs.

+

At 30,583 million euros, the Group's operating expenses were up by 2.1% compared to 2017. They included the exceptional 1,235 million euro impact of businesses' transformation costs and acquisitions' restructuring costs (957 million euros in 2017).

SAVE

SAVE IN LIBRARY

THE GOOD BANK DATA

+

(€M)	2018	2017
Revenues	42,516	43,161
Operating expenses and dep.	(30583)	(29944)
Gross Operating Income	11933	13217
Cost of Risk	(2764)	(2907)
Operating Income	9169	10310
Share of Earnings of Equity Methods entities	628	713
Other Non Operating Items	411	287
Non Operating Items	1039	1000
Pre-Tax Income	10208	11310
Corporate Income Tax	(2203)	(3103)
Net Income Attributable to Minority interests	(479)	(448)
Net Income Attributable to Equity Holders	7526	7759
Cost/Income	71,9%	69,4%

AUGMENTED ANALYST - REPORT CUSTOMIZATION - Ex: Word Addin

Prefilled template as set-up by the Credit Analyst expert is displayed to the end user for finetuning.

Parameters


Display (variation)

Absolute value

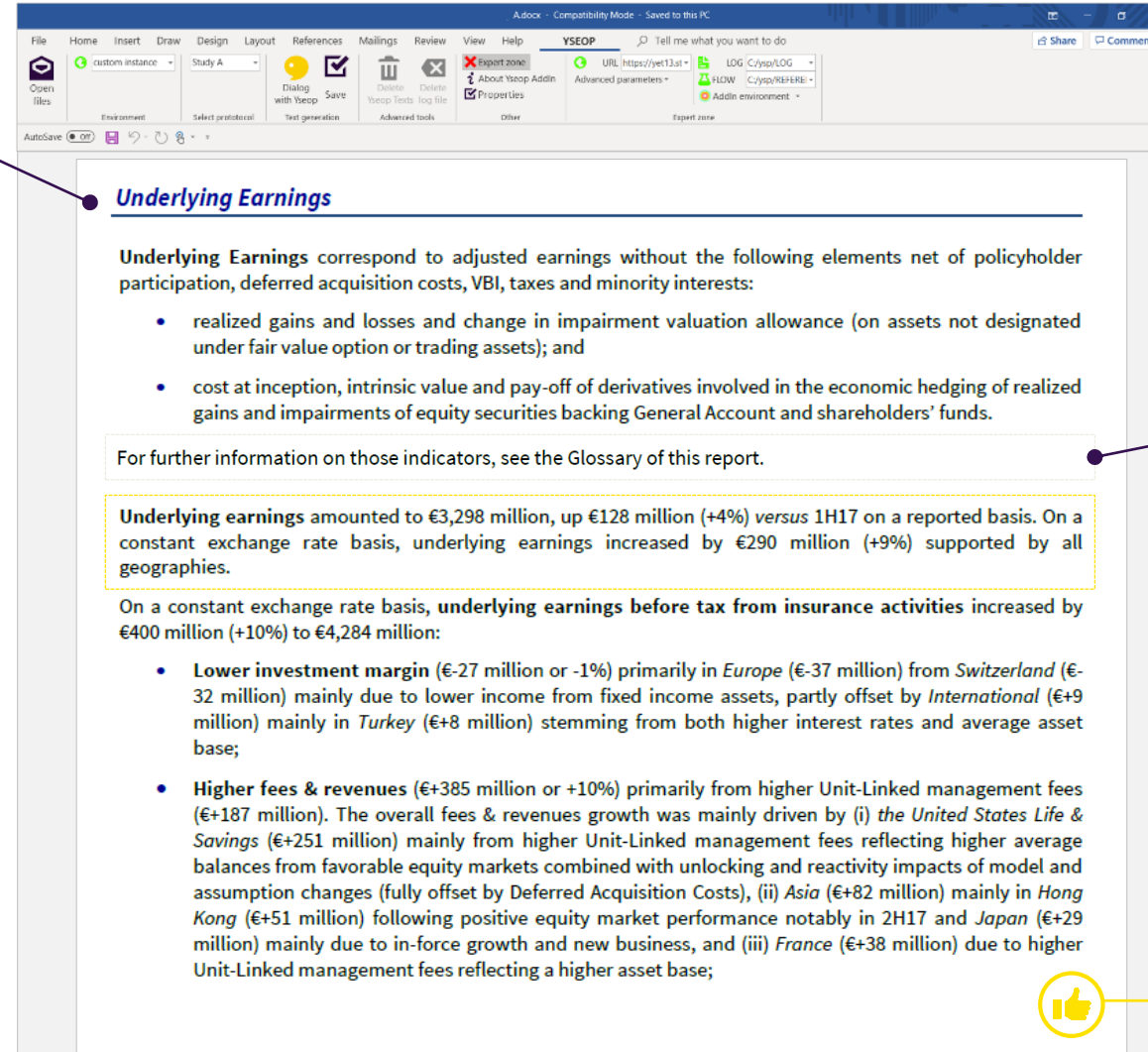
%

Contributors details

Low High

 Regenerate section

The Credit Analyst can adjust parameters of the prefilled template in order to obtain the report that suits him.



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For further information on those indicators, see the Glossary of this report.

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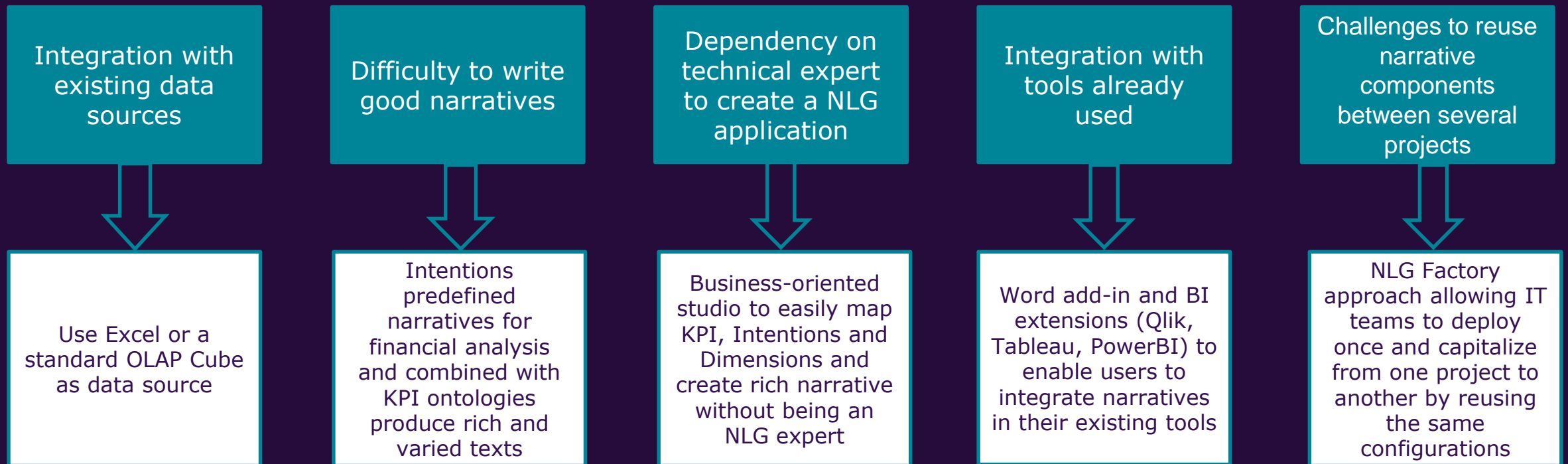
After being published on Word, the Credit Analyst can finalize the report with additional comments or modifications.

Feedback loop

Final report

Key benefits of YSEOP **Augmented Analyst?**

Augmented Analyst brings solutions to a number of technical pains

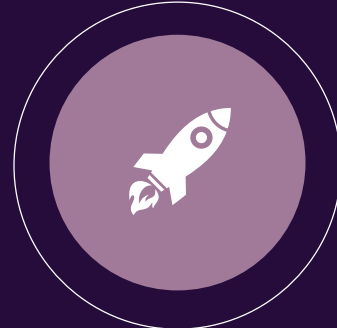


What is the **added value for Financial Services?**



Create value

Reallocate human intelligence to more value added tasks that the machine can't do. Provide more insights and better help decision making.



Optimize process

Reduce cost and produce reports faster. Streamline data management by centralizing all the IT systems information as a single reliable source of data.



Improve quality

Reduce risk of errors. Standardize reports. Make audit trail always available.



Enhance UX

Adopt a fully user-oriented approach to better meet user expectations and needs.



THANK YOU!

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