

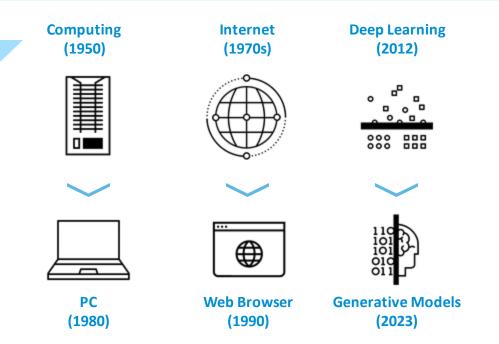
Mikal Netteberg, SAP

Stephen Gilderdale, Collibra



A New Revolution...

New technology excites... But correctly applied technology revolutionizes.



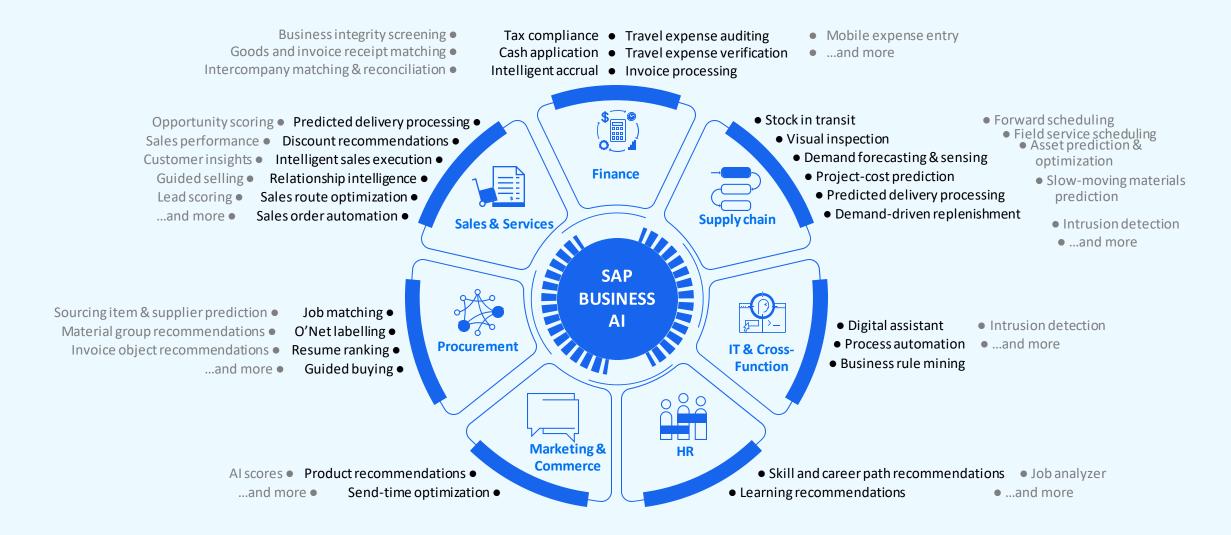
Generational leapfrogs over the past decades define who we are

Business value —

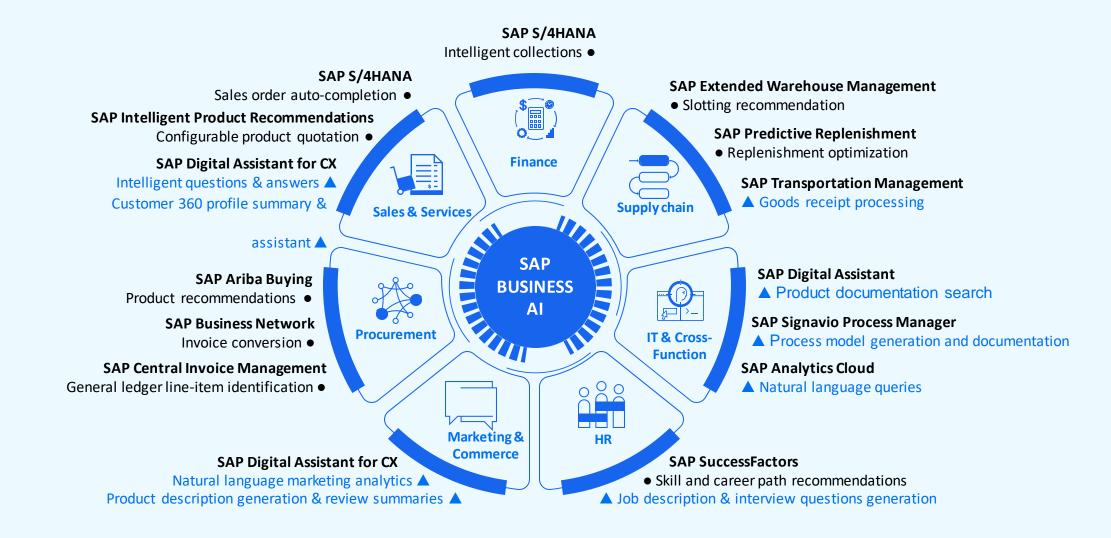
SAP R/1	SAP R/2	SAP R/3	SAP Business Suite	SAP S/4HANA + Cloud LoB	The Intelligent Enterprise	The Generative Enterprise GPT/4HANA
970s	1980s	1990s	2000s	2010s	late 2010s	2023+
rom batch to hteraction	Real time standard software	Client server architecture	Internet and mobile	In-memory computing	Digital network & intelligence	From interaction to outcome
Business process reengineering Industry 4.0 Globalization Internet					Everything-as-	-a-service
	Glo	balization		_	ESG ¹	/ sustainability
Internet				Remote work and virtual collaboration		

- Illustrative -

Most comprehensive AI capabilities for every function



New built-in AI capabilities for your business

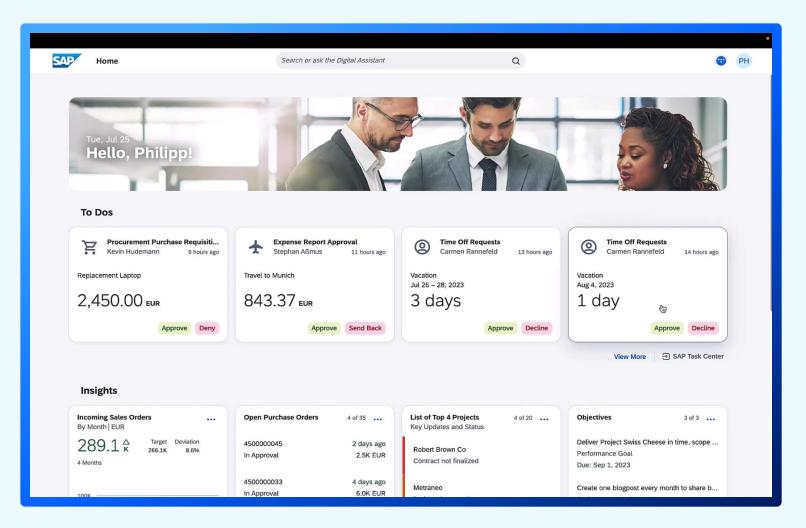


Joule

Use natural language to interact with your SAP applications in one out of the box unified experience

Get relevant responses, tailored to the context of your role and business process

Leverage the power of generative AI while maintaining data privacy and control



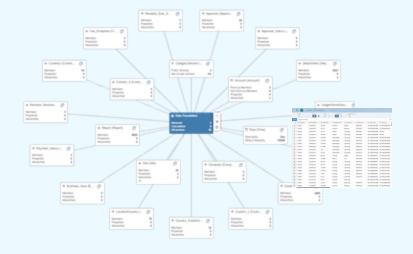
© 2023 SAP SE or an SAP affiliate company. All rights reserved.

SAP Analytics Cloud just ask

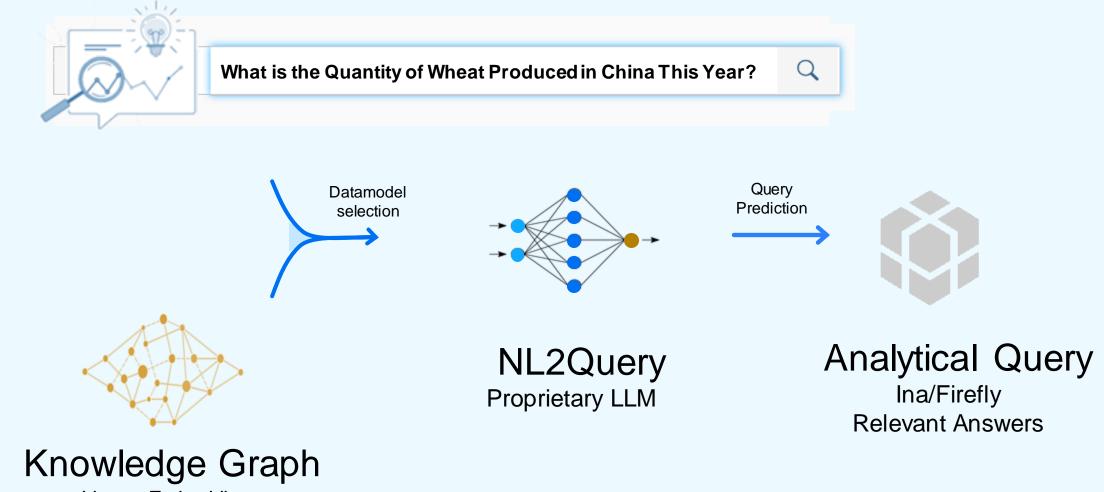
Natural Language Query

Answer questions in everyday language

Which sales agents in Belgium and France had less than 10 000 euros of travel expenses in last year quarters? ... with knowledge of the context



Generate an Analytical Query from a Question



Vector Embeddings

The NLQ challenge just ask is tackling thanks to Generative AI

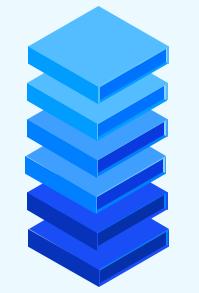
Generate analytical queries

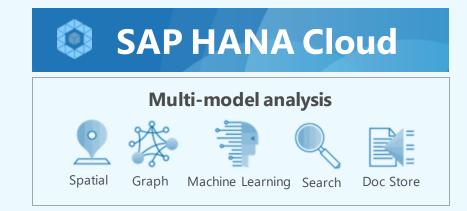
Payload view source		Sales Orders Bikes (1) Which sales agents in
(Analytics: {,},) ▼ Analytics: {,}		× SALES ORDERS BIKES
<pre>Copabilities: ["AggregationNOPNULL", "AggregationNOPNULLZERO", "AsyncBatchRequest", "AsyncMetadataBatchRequest",]</pre>		
▶ [0 = 99]	+ ~ (date product type customer segment account cour
▶ [100 - 155]		
<pre>/ [200 _ 100] >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></pre>		
<pre>v bitsource: [cremetorimentions: [1]=7]; Instancero: bibbobes-orderbars-4rm-rsssribbeter ;=/ * Extendedimensions: [()]</pre>		
$= 0: \{ - \}$		Travel Expenses by Sales Agent, Date
InstanceId: "db60d0e9-6766-aa79-4ffd-f93972d6e2e2"		Bike Sales Order
ObjectName: "/sap.epm/BestRunJuice_SampleModel_gs"		Bike Sales Order
Schemaliane: "TENANT 7"		
Type: "Planning"		-
▼ Definition: {,_}		202
<pre>v Dimensions: [{Attributes: [{Name: "[Date_703i1904sd].key", Obtainability: "Always"},_], Axis: "Rows",_},_]</pre>		Adrian Seo 1.308 1.308
0: {Attributes: [{Name: "[Date_703i1904sd].key", Obtainability: "Always"},_], Axis: "Rows",_}		Albert Mak 843 843
▶ 1: (Attributes: [{Name: "[Location_4nm2e04531].key", Obtainability: "Always"},_], Axis: "Rows",_}		Alexandra Gu 857 857
▶ 2: {Attributes: [{Name: "[Measures].[Measures]", Obtainability: "Always"},_], Axis: "Columns",_}		Alexandre Ge 1.643 2.072 1.775
3: (Attributes: [{Name: "[Account_BestRun]_sold].key", Obtainability: "Always"},_], Axis: "Columns",_}		Amrit Zhao 1.001 1.740 2,601
<pre>w DynamicFilter: {Selection: {Operator: {Code: "And", SubSelections: [{,-},-]}}}</pre>		Andre Yang 2.626 2.077
▶ Selection: {Operator: {Code: "And", SubSelections: [{,-},-]}}		Anna Muts 2,698
▼ HierarchyNavigations: [{,-},-]		Barry Chu 2.240 2,240
▶ 0: {}		Bill Thirmal 4,571
I: (OrillMember: {FielName: "[Oate_703i1904s3].key", Member: "[Oate_703i1904sd].[YH9].[All].[(all)]"),-)		Derrick Imberton 3.210 775 3,985
PlanningExtensions: {PlanningMode: "ForPrivateVersionsOnly"} PlanningMode: "ForPrivateVersionsOnly"		Eric Laforge 2.020 1.802
<pre>rismingmode: "rorrivateversionsunly" % ResultStreatureRequest (ResultEncoding: "None", ResultFormat: "Version2",}</pre>		Frolin Yan 2,388 962 3,348
<pre># resultetreturerequest; tresultetrouring: none; resulterromet: versions,; Resultetreturerequest; tresultetrouring; none;</pre>		Gowda Nalbandyan 8.970
NESVALLINUVAIR, MOINE Resultformat: "Version2"		Guido Kochar 1.373 1,373
nessicosmut. Verion. » ReturnedDataSelection: (Actions: true, CellDataType: true, CellExplain: true, CellFormat: true, CellMeasure: false,)		Heiko Fung 1.504 544 475 2,523
* SubstDescription: {CalumFrom: 0, ColumTo: 1, RowFrom: 0, RowTo: 10000}		Irene Lu 801 2,061 2,862
ColumnFrom: 0		Jay Reddi 567 650 1.448 2,665 Joachim Anderson 917 1.323 2.449
ColumnTo: -1		
RowFrom: 0		Jonathan Na 6.390
RowTo: 10000		
UseDefaultAttributeKey: false		
▼ Sort: [{Collator: {CaseSensitive: false}, Dimension: "Date_703i1904sd", Direction: "Asc",_},_]		
▼ 0: {Collator: {CaseSensitive: false}, Dimension: "Date_703i1904sd", Direction: "Asc",_}		
<pre>> Collator: {CaseSensitive: false}</pre>	1	
Dimension: "Date_703i1904sd"		 → Belgium , France In Country
Direction: "Asc"	l	
PreserveGrouping: true		
▼ SortTuple: [{FieldName: "[Measures].[Measures]", Value: "SignedData"),_]		(i) → Date Range 2022-01-01 00:00:00 , 2022-12-31 23:59:
▶ 0: {FieldName: "[Measures].[Measures]", Value: "SignedData"}		⊘
1: {FieldName: "[Account_BestRunJ_sold].key", Value: "[Account_BestRunJ_sold].[parentId].&[Discount]")		
SortType: "Datacell"	[
▶ 1: {Collator: {CaseSensitive: false}, Dimension: "Location_4nm2e04531", Direction: "Asc",_}		 (i) → Travel expenses <= 10000
VisibilityFilter: {Selection: {Operator: {Code: "And",}}}		
▶ Selection: {Operator: {Code: "And",}}		

...and relevant answers

 t v (ate product type (ustomer segment) account (country type) order id (country (ustomer)) Travel Expenses by Sales Agent, Date Bie Sales Order (ate attended to the segment) account (country type) (country ty		× SALES ORDERS BIKES				
Bite Sales Order	+ ~	date product type customer segment account country type order id country customer				
Bite Sales Order		Travel Expenses by Sales Agent, Date				
Adian See 900 1.300 Abert Ma 900 1.300 Abert Ma 900 1.300 Adian See 900 1.300 Andre Varg 2.002 1.700 5.900 Andre Varg 2.002 1.700 5.900 Andre Varg 2.002 1.700 5.900 Andre Varg 2.000 5.900 5.900 Andre Varg 2.000 5.900 5.900 Berry Chei 2.200 1.700 5.900 Berry Chei 2.200 3.000 7.000 Berry Chei 2.200 3.000 7.000 Berry Chei 2.200 3.000 7.000 Berry Chei 2.200 2.400 1.000 Gowds Malamines 2.400 2.400 1.000 Jonathan Ni 3.000 2.000 9.200 Jonathan Ni 3.000 2.000 9.200						
Abert Mak Abert Mak		2022/Q4 2 2022/Q2 2 2022/Q3 2 2022/Q1				
Aksxandre Ge 1.453 2.022 1.775 5,465 Antit 20:a 1.081 1.262 2.071 1.795 5,405 Antit 20:a 2.265 2.077 1.795 5,405 7,305 Barry Chu 2.265 2.240 8.143 7,305 9.977 Anna Muts 2.265 2.240 8.143 7,305 9.977 Barry Chu 2.260 2.240 8.143 7,305 9.977 Derrick timberton 2.210 7.755 3.045 7,072 Eric Lafterge 2.200 1.320 8.070 3.000 7,072 Gouda Kabandyan 2.200 1.321 8.070 3.000 7,072 Guido Kohar 1.3,713 8.070 3.080 1.080 13,913 Guido Kohar 1.3,713 1.323 2.443 3.000 2.000 9.208 Jocathan Andres 5.300 2.000 9.208 3.000 9.208						
Ande Varg 2.620 2.077 1.761 2.600 9.977 Anak Muts 2.685 5.143 7,353 9.97 Bary Ch 2.265 5.143 7,353 9.97 Bary Ch 2.265 3.043 7,353 9.710 Denick lineted 2.260 1.602 3.063 7,962 Ex Lakey 2.260 3.243 0.002 3.163 1.763 Goide Kohn 1.373 1.973 1.913 1.943 Goide Kohn 1.922 2.443 1.913 1.943 Jonsthan Na 1.922 2.443 1.924 1.924 Jonsthan Na 1.932 2.443 1.924 1.924		Alexandre Ge 1.043 2.072 5,499				
Barry Chu Bit Thimai Derick Method Frien Wath Geweld Malabana Guide Kocher Heile Fung Heile Fung Jondhan Na Jondhan Na Derick Method State 144 Guide Kocher Heile Fung Jondhan Na Jondhan Na Derick Method State 144 Jondhan Na De		Andre Yang 2.628 2.077 1.791 3.503 9,997				
Eric Laferge From Yan Gewelds Nabananya 2,250 1,80 3,083 7,802 Gewelds Nabananya 922 3,241 1,223 13,313 Guide Kochar Heillo Fung Heillo Fung 2,362 2,462 2,462 Jay Redsi Joachim Anderson 917 1,322 2,449 Jonsthan Na 6,380 2,006 9,298		Barry Chu 2,240 2,240				
Govda Nabandya 8,870 2,180 1,782 13,913 Guido Kochar 1554 541 252 13,913 Helko Fung 2001 2,842 2,842 2,842 Jay Reddi 567 600 1442 2,665 Joachim Anderson 6,3800 2,003 9,298		Eric Laforge 2,020 1,002 3,083 7,002				
Helko Fung 1564 544 25 Irene Lu 200 2.82 Jag Redit 141 2.645 Joanhan Na 6.380 2.000 3.218		Gowda Naibandyan 8,970 11,763 11,913				
Joachim Anderson Jonathan Ha		Helko Fung trene Lu 801 2,001 2,002				
 Belgium , France In Country 		Joachim Anderson 617 1.223 2,449				
		Jonathan Na 6,390 2,008 9,296				
Date Range 2022-01-01 00:00:00, 2022-12-31 23:59:59		(i) - Belgium , France In Country				
(i) - Date Range 2022-01-01 00:00:00 , 2022-12-31 23:59:59						
		(i) - Date Range 2022-01-01 00:00:00 , 2022-12-31 23:59:59				
(i) → Travel expenses <= 10000		(i) - Travel expenses <= 10000				

SAP Datasphere Al





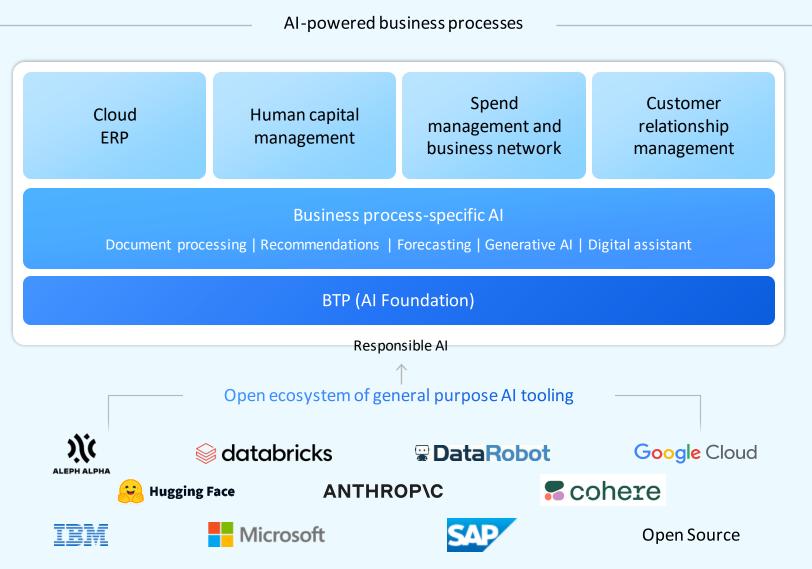
SAP Datasphere AI

SAP Business AI

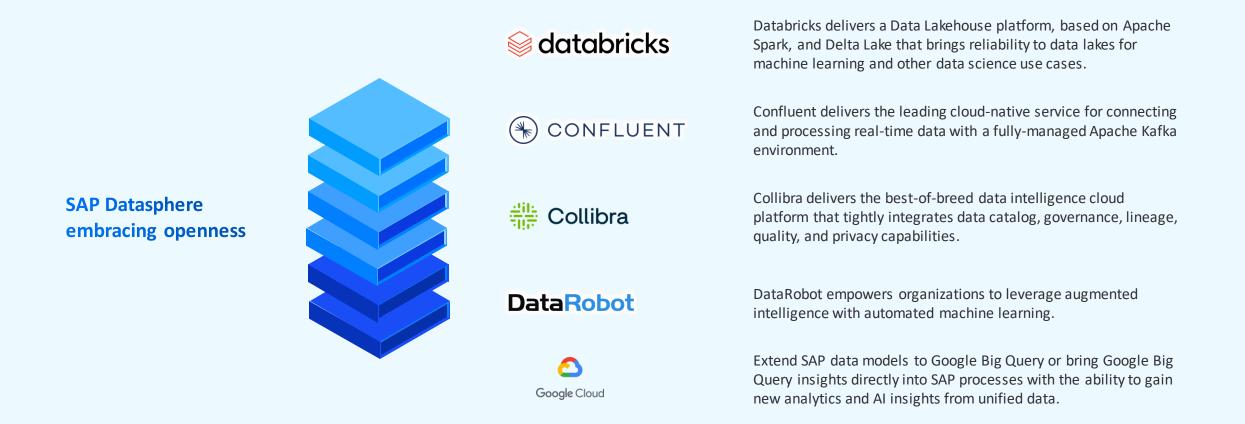
	AI-powered bu	siness processes								
Cloud ERP	Human capital management	Spend management and business network	Customer relationship management							
Document proce	Business process-specific AI Document processing Recommendations Forecasting Generative AI Digital assistant BTP									
	Respor	nsible AI neral purpose AI tooling								

 \rightarrow

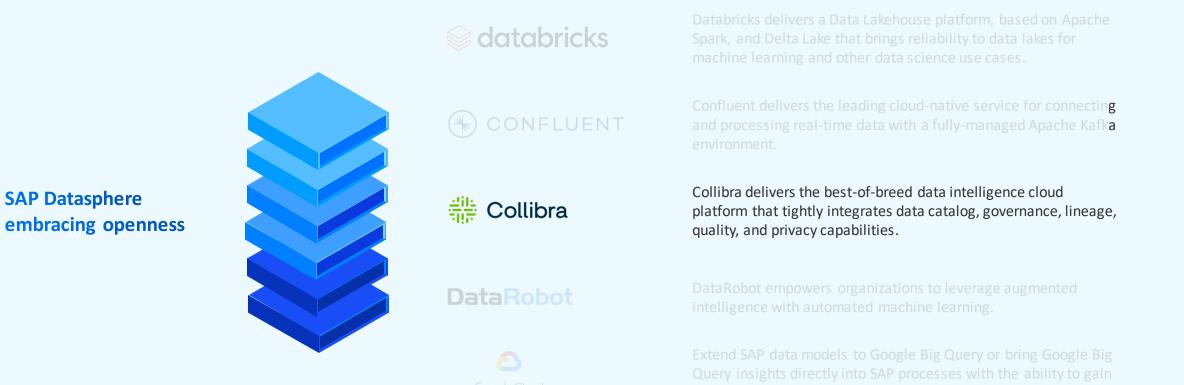
SAP Business Al



...Al together with our open data partners



Together with our open data partners



Thanks...

Stephen Gilderdale, Collibra stephen.gilderdale@collibra.com

Mikal Netteberg, SAP mikal.netteberg@sap.com