



# Terminology Management and Business Process Modelling at SAP

Mark D. Childress, SAP SE  
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PUBLIC



JOHANNES GUTENBERG  
UNIVERSITÄT MAINZ

THE BEST RUN 

# Agenda

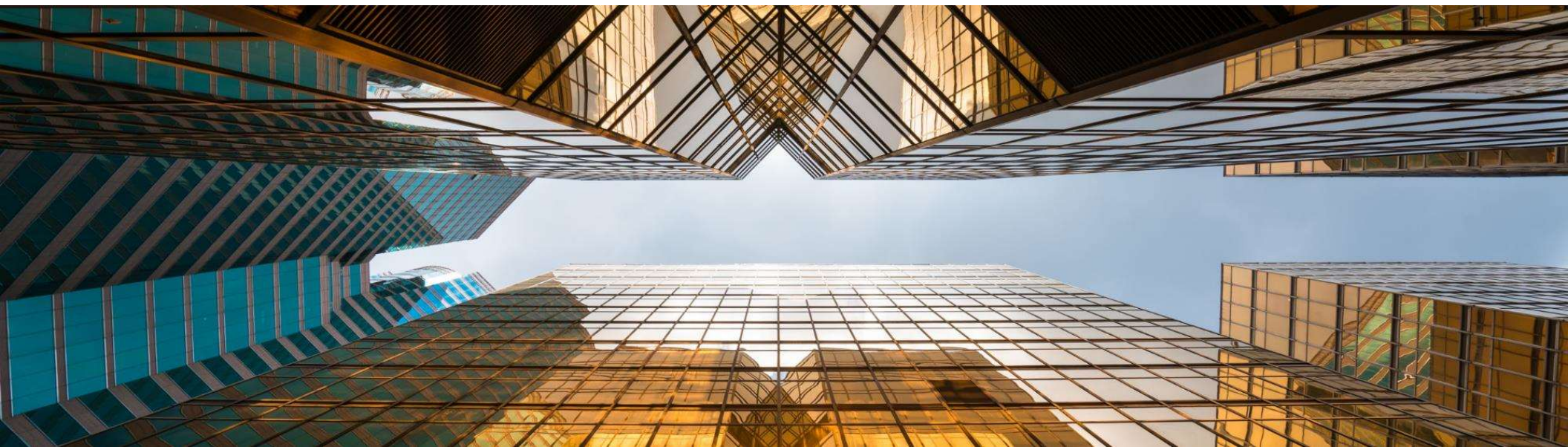
Overview of SAP SE

Terminology management using Business Process Model and Notation (BPMN)

Improving term management with business process modelling

Summary and Q&A

# Overview of **SAP SE**







**Everything**  
is changing  
faster than ever





The way value is  
**created and measured**  
is changing, too



A woman with dark hair is shown in profile, wearing a black VR headset. She is looking forward, and the background is a dark, out-of-focus scene with colorful bokeh lights in shades of red, blue, and white. The text "Disruptive business models are reshaping industries" is overlaid on the left side of the image.

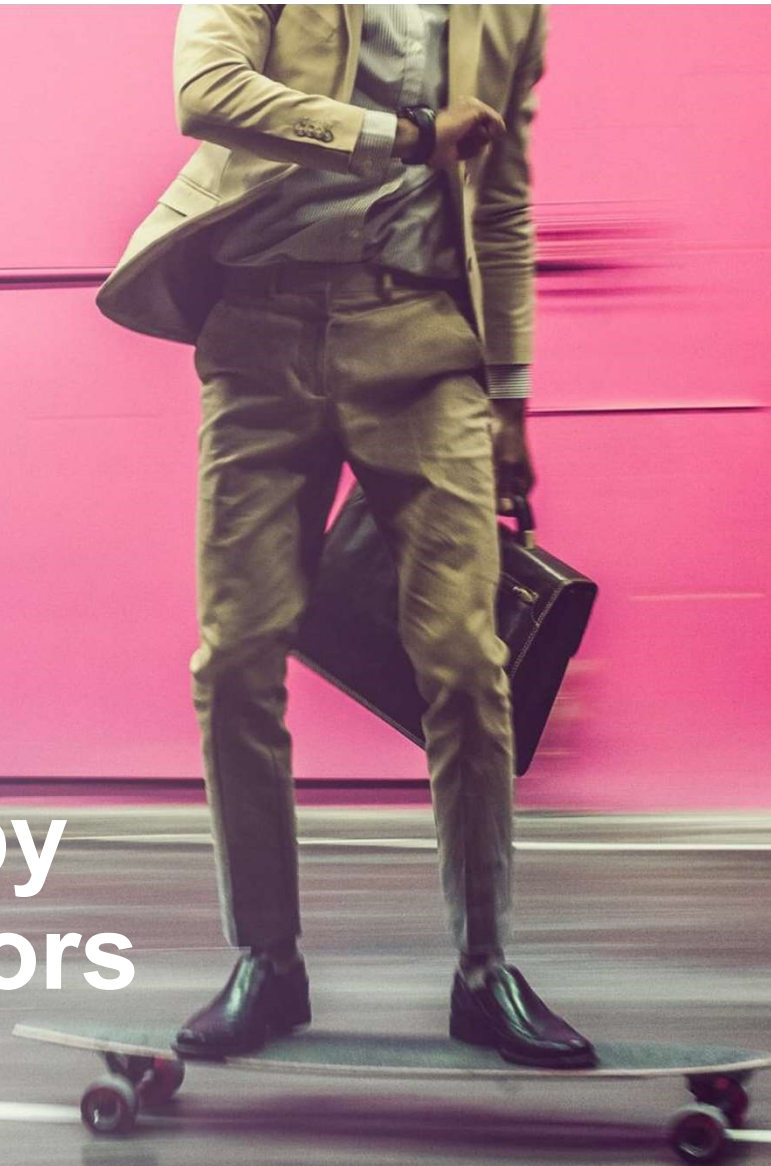
Disruptive business  
models are **reshaping**  
industries





Rapid growth  
in data volume  
is **overwhelming**  
decision-makers

**Best-run  
businesses**  
create value by  
being disruptors







**Best-run  
businesses are  
intelligent  
enterprises**

A low-angle photograph of a white wind turbine standing tall against a clear blue sky with wispy clouds. The foreground is filled with vibrant yellow wildflowers, some in sharp focus and others blurred. In the background, another wind turbine is visible, partially obscured by the flowers.


**They manage  
resources  
effectively**



A close-up, low-angle shot of a human hand reaching upwards, palm facing up. The hand is positioned in the lower foreground, with fingers slightly spread. The background is a soft-focus landscape featuring a bright sun low on the horizon, creating a warm, golden glow and lens flare. A faint rainbow is visible in the sky, arching over the horizon. The overall mood is hopeful and aspirational.

And they're grounded  
in **purpose**





**77%** of the world's  
transaction revenue  
touches an **SAP** system.

**SAP**






**SAP systems** touch  
**\$23 trillion** of consumer  
purchases around the world.



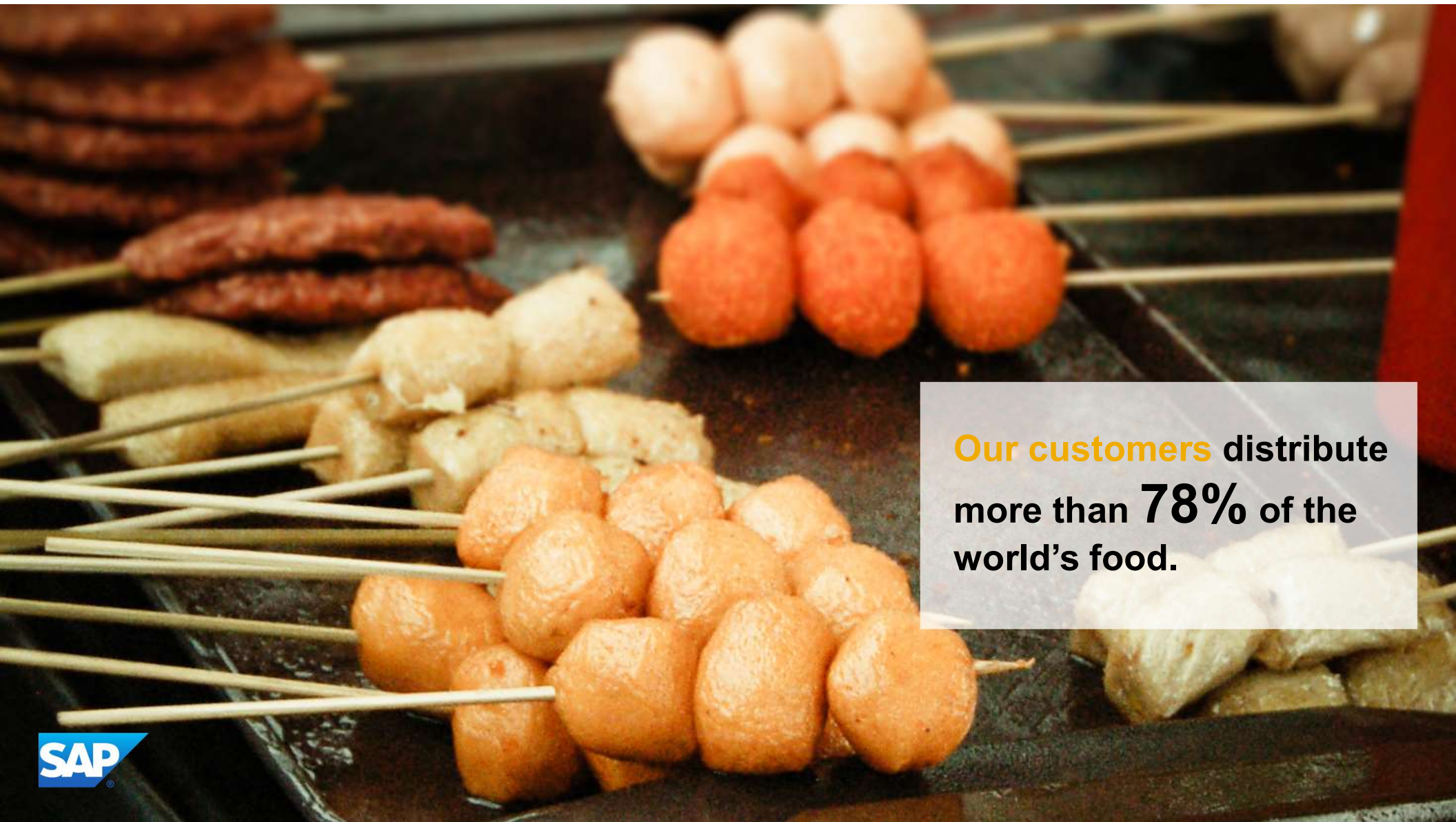
note: \$ currency amount is in USD



A long-exposure photograph of a city at night, likely New York City, showing a bridge and a river. The image is filled with light trails from cars on a highway, creating a sense of motion. The city lights and bridge structure are visible in the background.

**SAP HANA** can increase  
analysis speed by more  
than **10,000x**, equal  
to walking from California  
to New York in 6 minutes.





Our customers distribute  
more than **78%** of the  
world's food.

A close-up shot of a doctor's hand holding a black stethoscope. The doctor is wearing a white lab coat. The background is a blurred hospital hallway with warm lighting, a potted plant, and a framed notice on the wall.

**Our customers**  
produce more than  
**82%** of the world's  
medical devices.



Our customers fly more  
than **2.5 billion**  
of the world's passengers.





A photograph of a movie theater lobby. A bright red carpet runs down the center of the frame, flanked by silver stanchions and red velvet ropes. The carpet leads towards a set of large glass double doors at the far end of the lobby. The floor is made of dark, polished tiles with a white tile border. To the left, there is a white counter with a cash register and a display of colorful candies. To the right, there is a metal railing and a framed picture on the wall. The lighting is warm and comes from recessed ceiling lights.

**Our customers**  
produce more than  
**62%** of the world's  
movies.






**80%** of the sports and entertainment organizations in the Forbes Global 2000 are **SAP customers**.

**SAP**





A close-up, low-angle shot of a line of soccer players standing on a green grass field. The focus is on their lower legs and feet. They are wearing white socks with blue stripes and dark-colored athletic shoes. The background is a blurred green field.

**Our customers**  
produce more than  
**86%** of the world's  
athletic footwear.





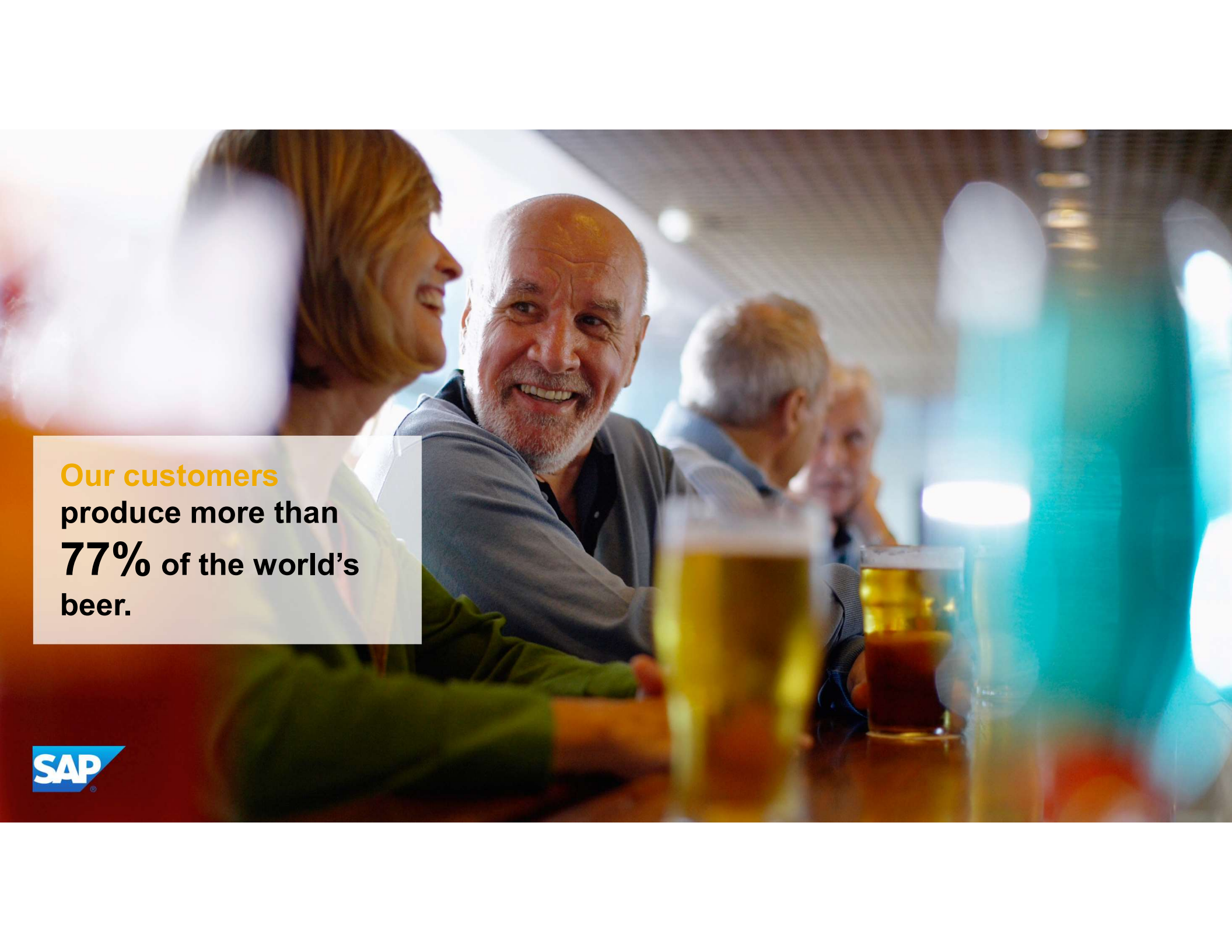
**Our customers** produce  
more than **82%** of the  
coffee and tea we drink  
each day.





**Our customers**  
produce more than  
**79%** of the world's  
chocolate.

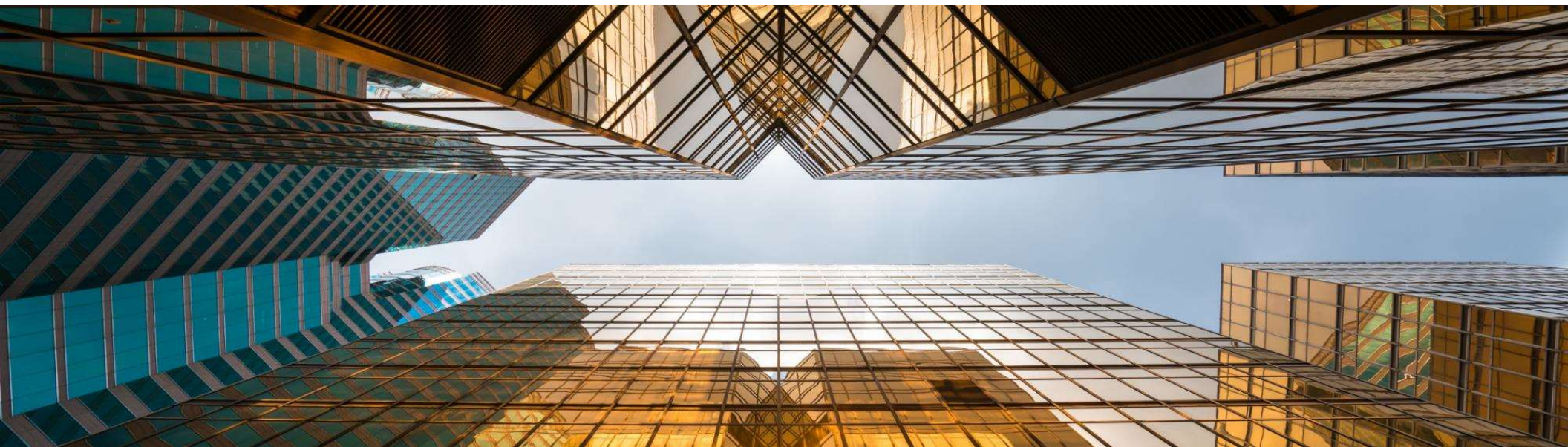


A photograph of a group of people, primarily older adults, sitting at a bar. In the foreground, two glasses of beer are visible on the bar counter. A man with a grey beard and a blue shirt is smiling towards the camera. To his left, a woman with blonde hair is also smiling. In the background, other people are seated at the bar, and a person in a blue apron is partially visible on the right. The scene is lit with warm, ambient light.

**Our customers**  
produce more than  
**77%** of the world's  
beer.



# Terminology management using Business Process Model and Notation (BPMN)





## Terminology: SAP example (local frontend)

The screenshot shows the SAP Transportation Cockpit - Transport Manager interface. The top navigation bar includes 'Favorites', 'Personalize', and 'Help'. Below it is a 'Navigate:' field and a breadcrumb trail: 'Planning > Planning > Transportation Cockpit'. The main toolbar contains icons for 'Home', 'Forwarding Order Manag...', 'ERP Logistics Integration', 'Freight Order Management', 'Planning', and 'Forwarding Settlement'. A left sidebar lists navigation options: 'Worklist', 'Planning' (expanded), 'Transportation Cockpit', 'Carrier Selection', 'Freight Unit', 'Freight Order', 'Freight Booking (Air)', 'Freight Booking (Ocean)', 'Transportation Allocation', and 'Business Share'. The main content area is titled 'Transportation Cockpit - Transport. Manager' and includes a sub-toolbar with 'Save', 'Show Map', 'Plan Selected Items', 'Transportation Proposals', 'Optimizer Planning', and 'Optimizer Explanation'. Below this is a 'Sales Orders' section with a table. The table has columns: 'Sales Order', 'City (Loading)', 'City (Unload...', 'Earliest A...', 'Product', and 'Gross Weight'. The table contains three rows of data, with the third row highlighted in orange. Callouts from the right point to various elements: 'IT terms' points to the top navigation bar; 'SAP terms' points to the 'Transportation Cockpit - Transport. Manager' title; 'Business terms' points to the 'Sales Orders' section; and 'Industry terms' points to the table data.

**IT terms**

**SAP terms**

**Business terms**

**Industry terms**

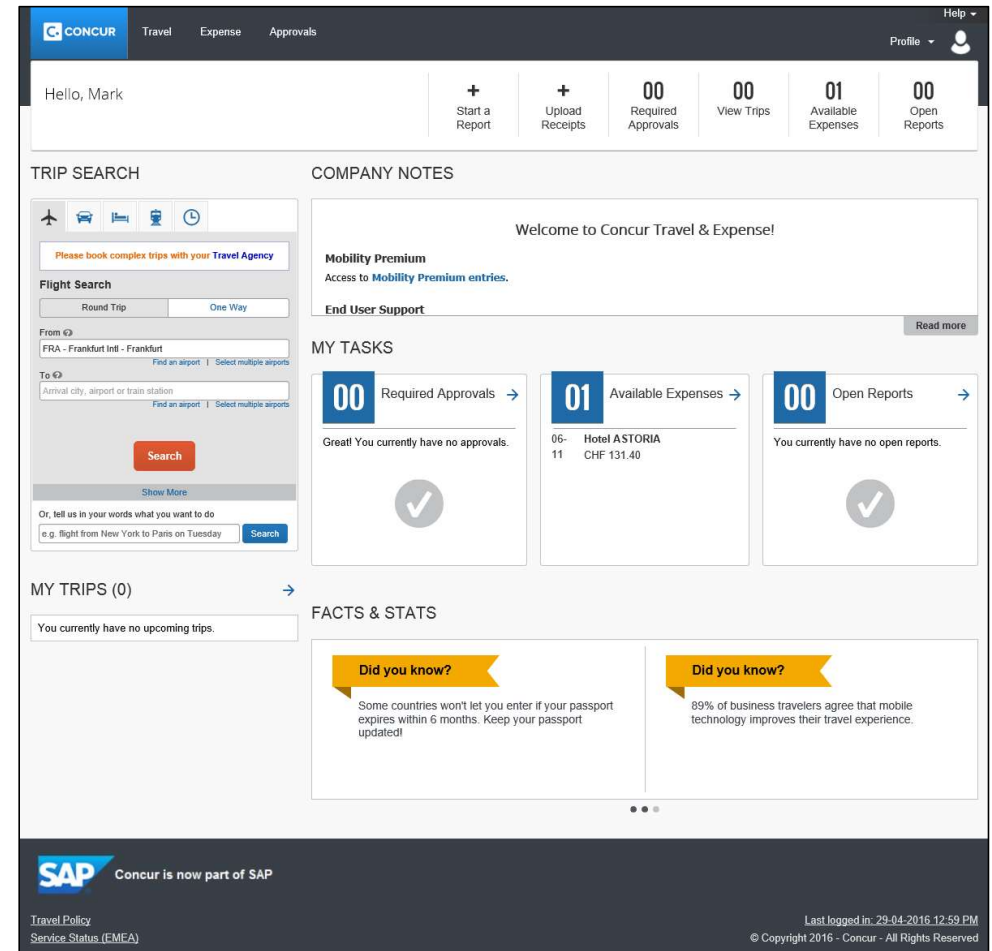
Sales Order	City (Loading)	City (Unload...	Earliest A...	Product	Gross Weight
46527	Lava	Calais	24.09.2010	RIOJA WINE@QV5500	15.000,00
46532	Folkestone	London	24.09.2010	RIOJA WINE@QV5500	15.000,00
47450	Bern	New York	24.09.2010	CHOCOLATE@QV5500	25.000,00
	Appleton	Halbergmoos	17.11.2010	VEAL SAUSAGE@QV...	1.250,00

# Terminological definition – example

## SAP solution for travel management on cloud platform

- Central purchasing and management of travel services
- Booking and settlement from anywhere on any device – PC, tablet, smartphone
- Integrated with other solutions – financial (bank transfers, billing), personnel (absences, travel insurance)

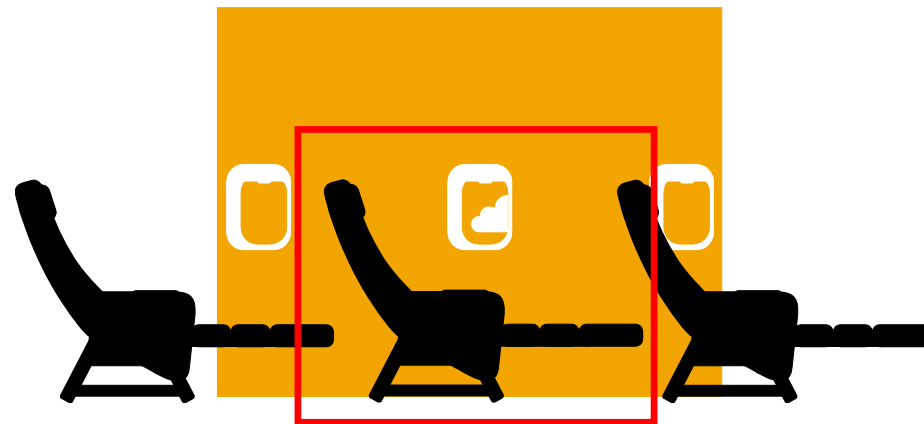
### Example: New function to book flight reservations





## Defining a term – Step 1

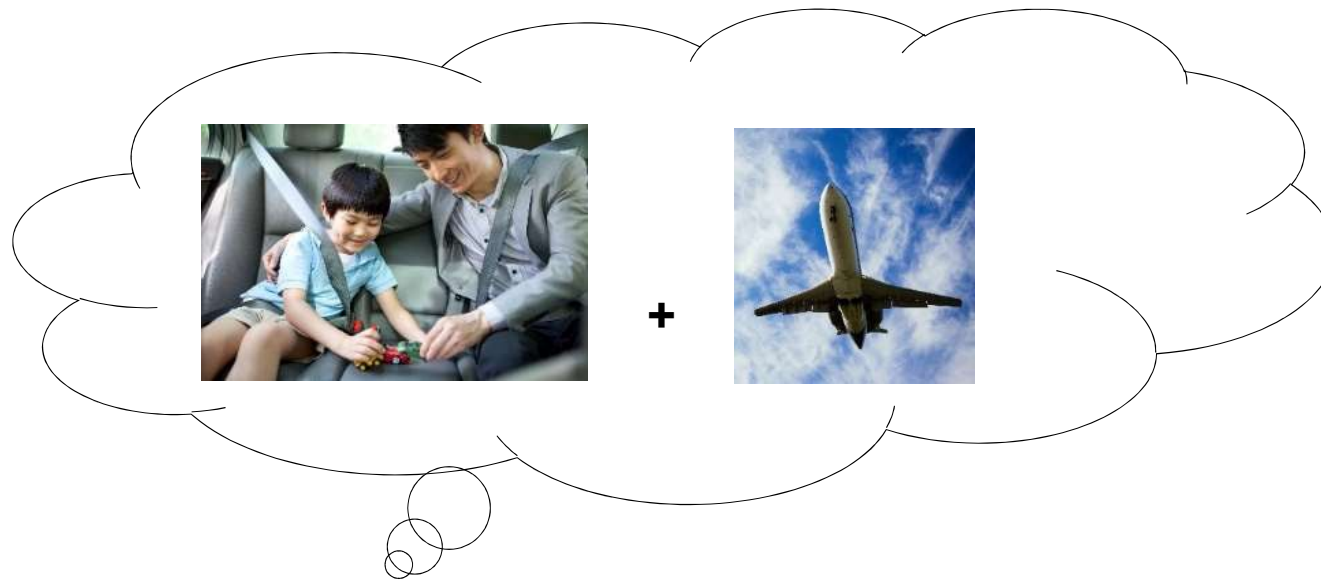
**Object**



(real or imaginary)

## Defining a term – Step 2

### Concept

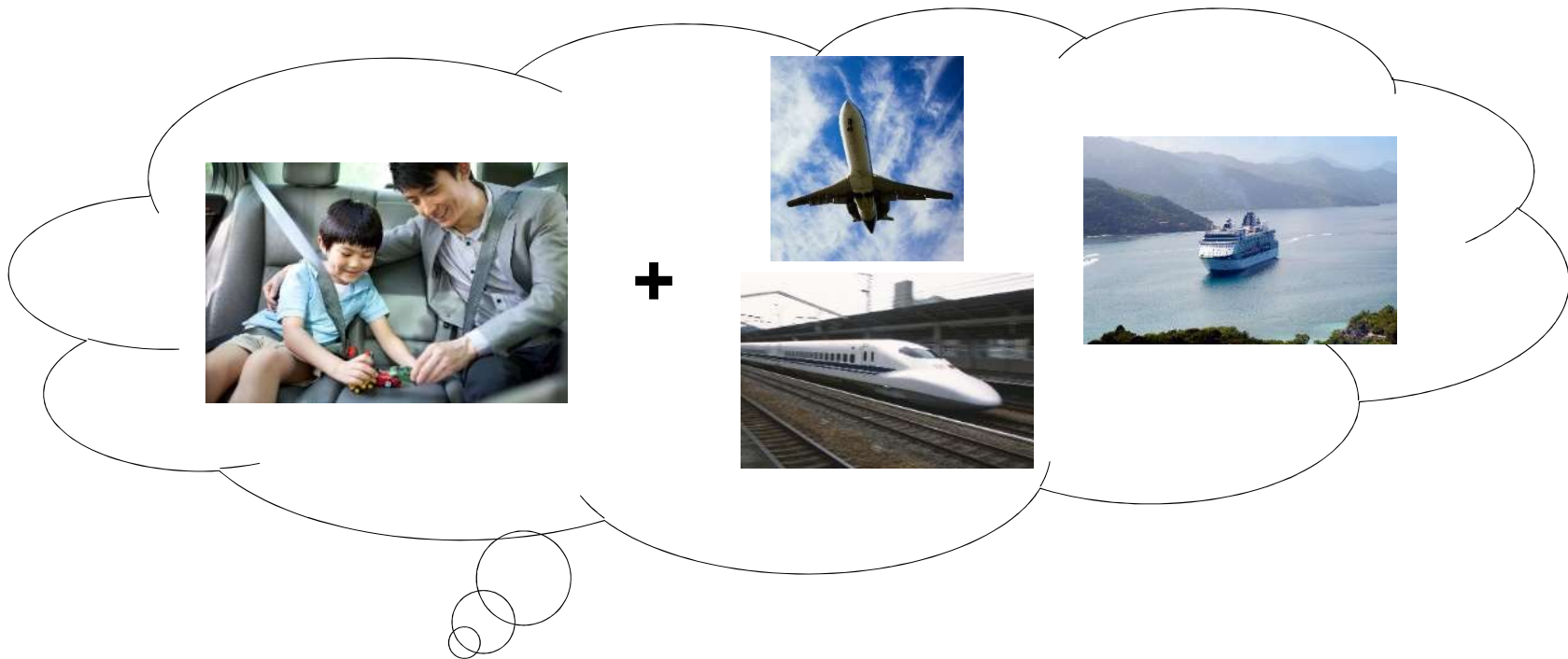


(unit of thought derived from generalization of a set of similar objects)

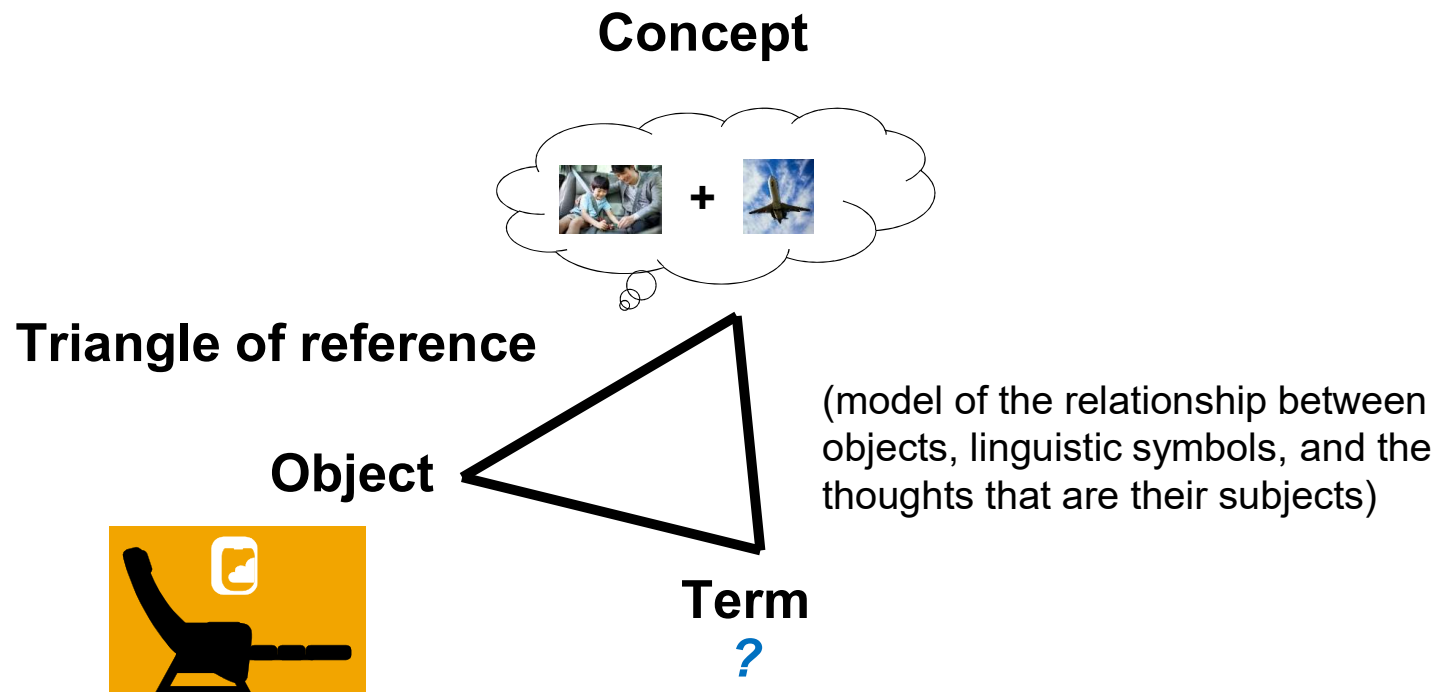


## Defining a term – Step 2a

**Term building** = Determining the unique characteristics + abstraction

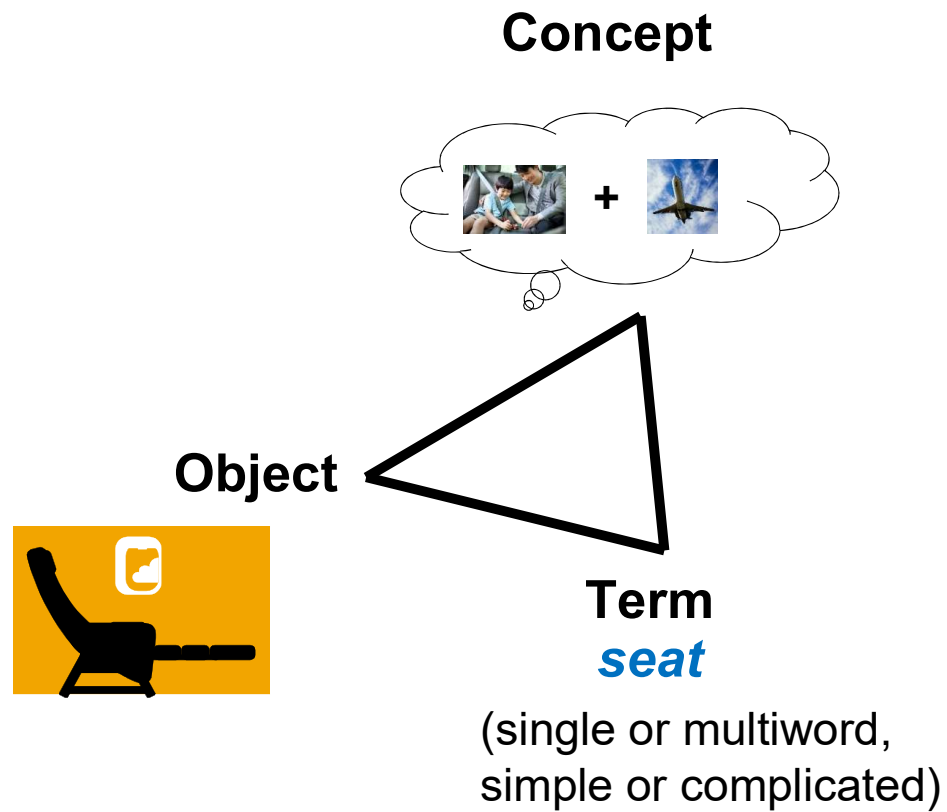


## Defining a term – Step 3

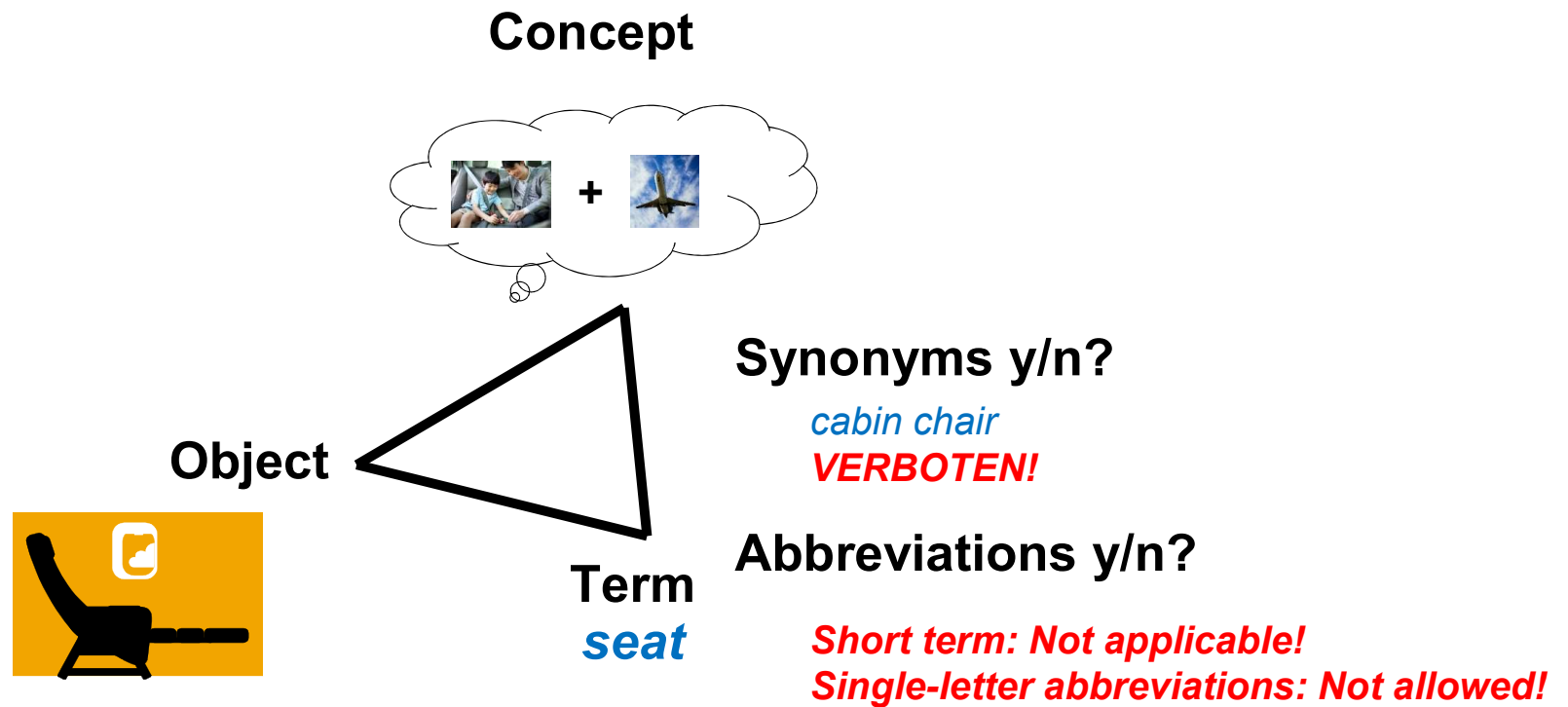




## Defining a term – Step 3a

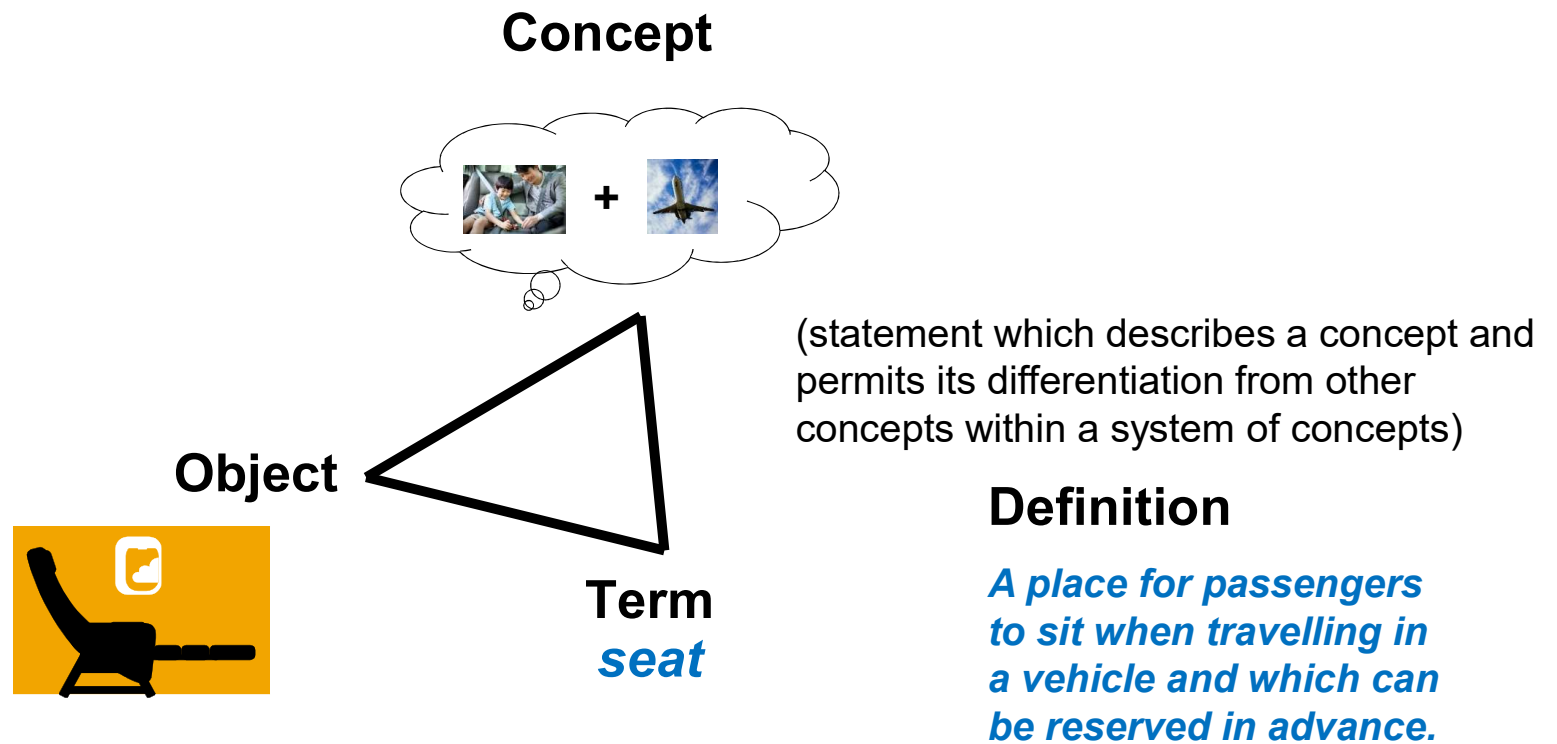


## Defining a term – Step 3b

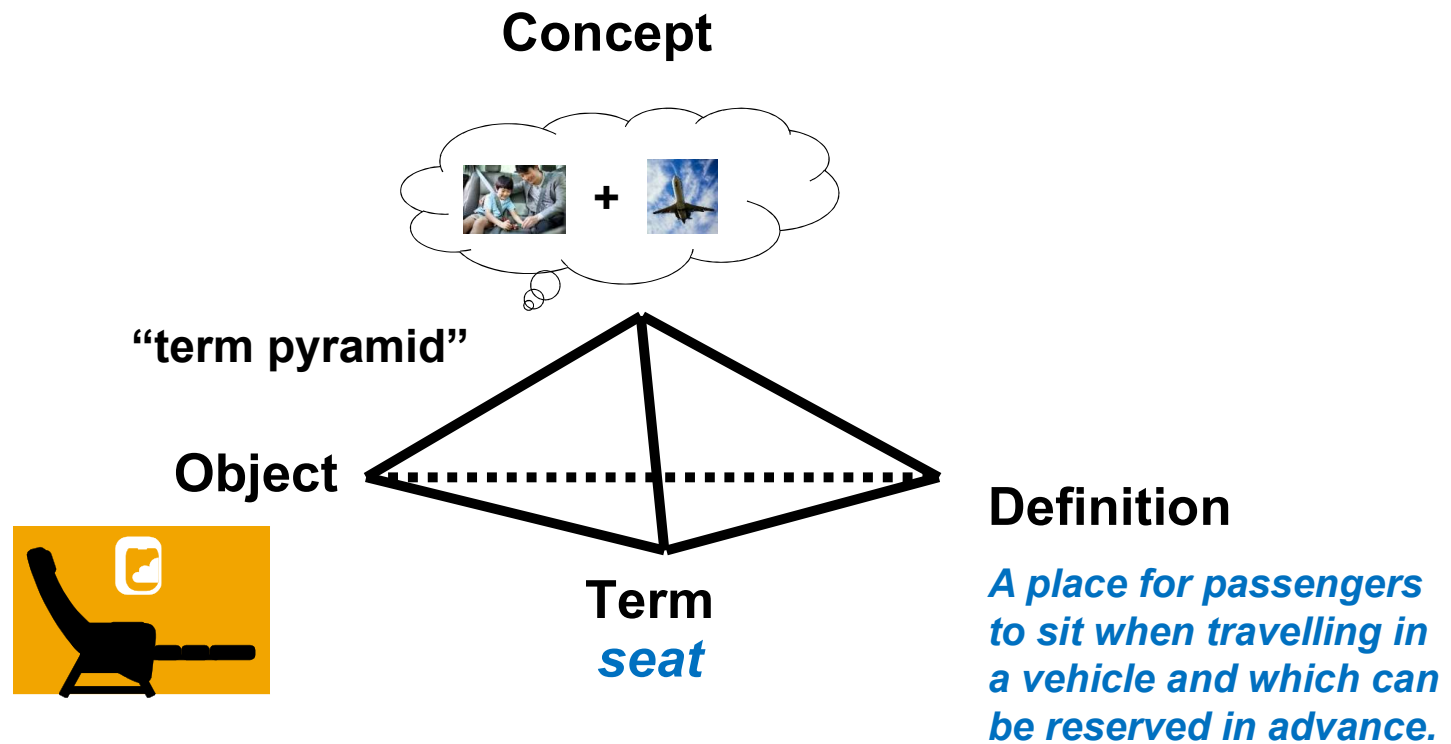




## Defining a term – Step 4



## Defining a term – you're done!





# Terminology for multiple languages / countries

**English**    *seat*

Context: Travel management

Grammatical information: Noun

Reference / source: Industry standard

- Text quotes
- Reference works
- Discussions w / field consultants

**German**    *Sitzplatz (m)*

**Italian**    *posto a sedere (m)*

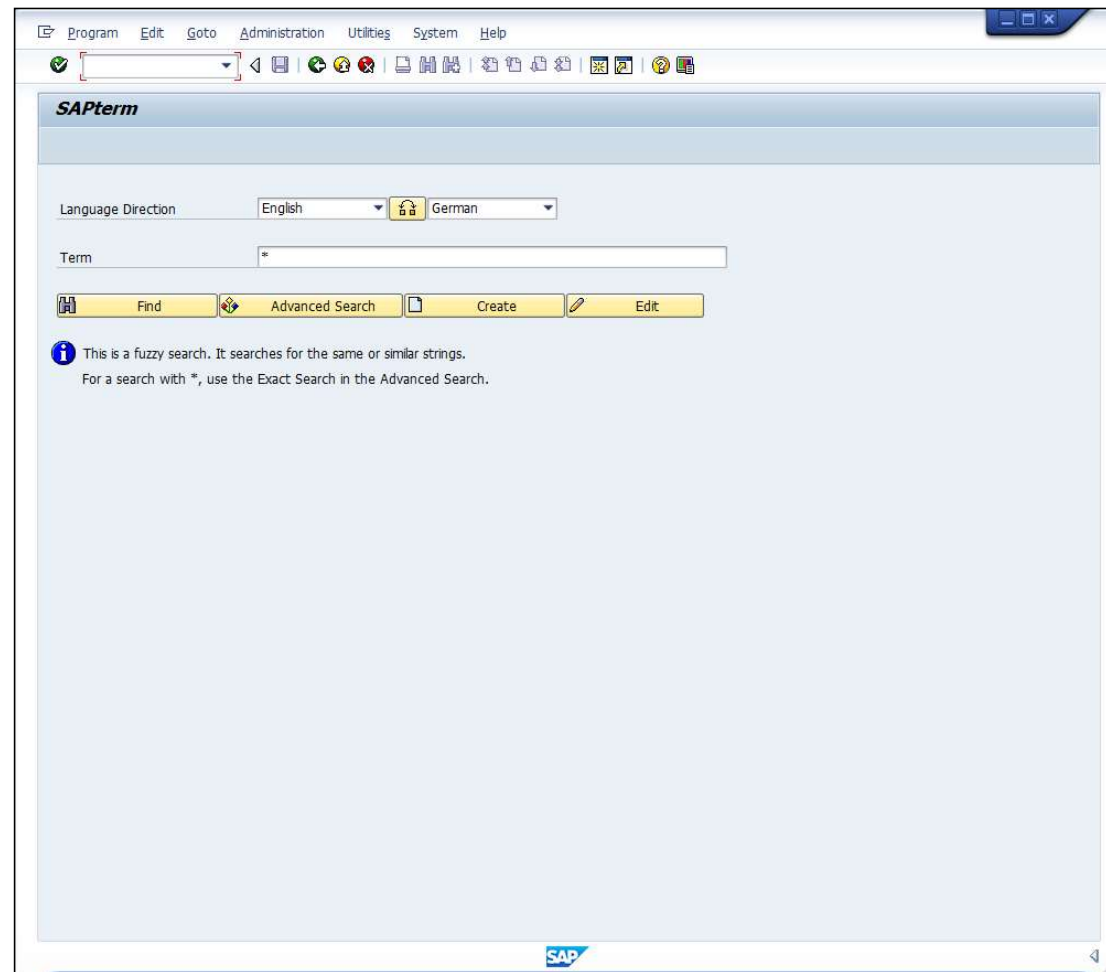
**Russian**    *место (n)*

**Japanese**    座席

**Chinese**    座位

**Arabic**    (m) مقعد

# The SAPterm terminology database





# SAPterm – advanced search

The screenshot displays the SAPterm Advanced Search window. At the top, there is a menu bar with 'Selections', 'Edit', 'Goto', 'System', and 'Help'. Below the menu is a toolbar with various icons. The main area is titled 'Advanced Search' and contains several sections for configuring the search:

- Reset:** A button to clear the search criteria.
- Search Type:** Radio buttons for 'Exact Search' (selected), 'Case Sensitive', and 'Fuzzy Search'.
- Language Direction:** A dropdown menu showing 'DE' and a button to toggle between 'DE' and 'EN'.
- Term:** A text input field containing an asterisk (\*).
- Status:** A dropdown menu showing '3' and a button to toggle between '3' and '4'.
- Component:** A section with a 'Component' dropdown showing 'SD\*' and a button to toggle between 'SD\*' and 'SD\*'. Below it, a section 'Exclude Entries When Component Is:' has checkboxes for 'Added' (checked) and 'Original' (unchecked).
- Include Only The Following:** A section with checkboxes for 'Standard Entry' (checked), 'Internal Entry' (checked), 'Entries with Definitions' (checked), and 'Entries without Definitions' (checked). Below these are checkboxes for 'Abbreviations', 'Synonyms', 'Rejected Terms', 'Invalid Spellings', and 'Superordinate Terms'.
- Non-Translatable:** A section with a dropdown menu showing 'Q' and a button to toggle between 'Q' and 'Q'.
- Proprietary Restriction:** A section with a dropdown menu showing 'Q' and a button to toggle between 'Q' and 'Q'.
- Legal Restriction:** A section with a dropdown menu showing 'Q' and a button to toggle between 'Q' and 'Q'.
- Source and/or Comment:** A section with a dropdown menu showing 'Q' and a button to toggle between 'Q' and 'Q'.
- Link to SAP Documentation:** A section with a dropdown menu showing 'DE' and a button to toggle between 'DE' and 'DE'.
- Entry Note:** A section with a dropdown menu showing 'Q' and a button to toggle between 'Q' and 'Q'.
- Term Category for SBOP:** A section with a dropdown menu showing 'Q' and a button to toggle between 'Q' and 'Q'.

The SAP logo is visible in the bottom right corner of the window.

# SAPterm – results list

Terminology Database: 816 Hits Found

Entry Definition Glossary Key

CI	Stat	Entry	Component	
	OC	distribution medium Verteilungsmedium	BC-FES-INS	
	OC	document-based payment medium beleghafter Zahlungsträger	FI-CA	
	OC	ELDA data medium Valid Only in Country: AT ELDA-Datenträger Valid Only in Country: AT	PY-AT	
	OC	electronic medical administration record elektronisch-medizinischer Verabreichungsbeleg	IS-RMED	
	OC	employer obligation to provide benefits and medical welfare Arbeitgeberfürsorgepflichten	PA-BN	
	OC	entitled medical treatment period Valid Only in Country: CN	PY-CN	
	OC	entry of services performed Leistungserfassung	MM-SRV	
	OC	service entry sheet Leistungserfassungsblatt Valid Synonym: entry sheet for services performed	MM-SRV	
	OC	environmental remediation Behebung von Umweltschäden	FIN-SEM-BCS	
	OC	Exceptional Medical Expenses Act Valid Only in Country: NL	PY-NL	
	OC	deployment stock transfer Deployment-Umlagerung Rejected Term: firmed transport order	SCM-APO-SNP	
	OC	immediate cause unmittelbare Ursache	GRC-RM	
	OC	direct elimination of goodwill	EC-CS	



# SAPterm – term entry detailed view

The screenshot displays the SAPterm interface for a terminology database. The top menu bar includes 'Display', 'Edit', 'System', and 'Help'. Below the menu, a toolbar contains various icons for document management and navigation. The main window is titled 'Terminology Database: 1 Hits Found'.

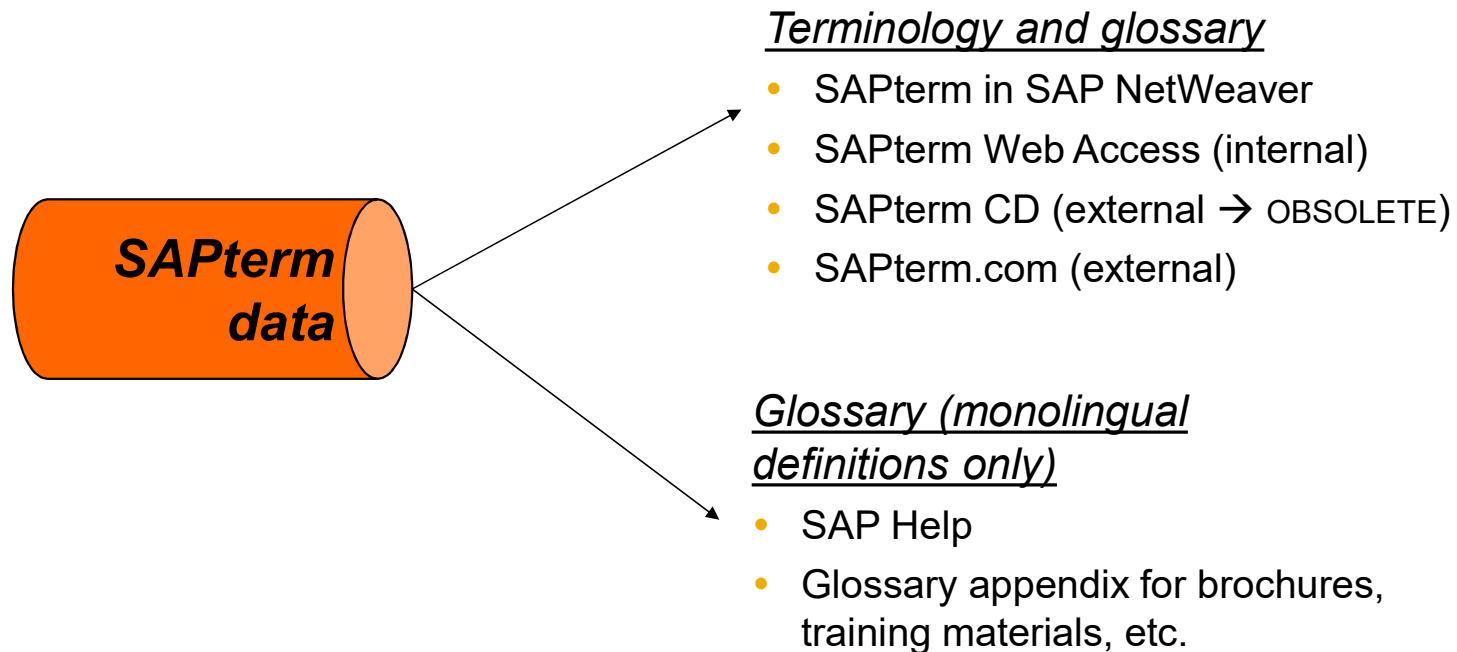
On the left, a tree view shows the hierarchy of the term entry:

- CO Controlling
- FS Project System
- SRM-EBP Enterprise Buyer
- Admin. Info.
  - Original Language DE
  - Entry Class Standard Entry
  - Concept ID 3526B5D3AFAB52B9E1000009B38F974
- Source
  - English
    - Abbreviation controlling area
    - Abbreviation CO area
    - Abbreviation COAr
  - German
    - Abbreviation Kostenrechnungskreis
    - Abbreviation KOKRS
    - Abbreviation KoReKreis
    - Abbreviation KostRechKreis
    - Abbreviation KKr
    - Abbreviation KKRks
    - Abbreviation KoKrs
    - Abbreviation KKrs
  - Arabic
    - Abbreviation منطقة المراقبة
  - Bulgarian
    - Abbreviation Област на контролинг
  - Catalan
    - Abbreviation societat CO
  - Czech
    - Abbreviation nákladový okruh
  - Danish
    - Abbreviation CO-område
  - Greek
    - Abbreviation περίμετρος ελέγχου
  - Spanish
    - Abbreviation sociedad CO
    - Abbreviation soc.CO
  - Estonian
    - Abbreviation kontrollinguala
  - Abbreviation KO-ala
  - Persian
    - Abbreviation حوزه کنترل
  - Finnish
    - Abbreviation laskenta-alue
  - Abbreviation LA
  - French
    - Abbreviation périmètre analytique
    - Abbreviation périmètre de compta. analytique
  - Hebrew
    - Abbreviation תחום בקרה
  - Hindi
    - Abbreviation क्षेत्र
  - Croatian
    - Abbreviation područje kontrolinga
  - Hungarian
    - Abbreviation költségcszámítási kör
  - Abbreviation KSzK
  - Abbreviation KtgSzKör
  - Abbreviation KtgSzámKör
  - Italian
    - Abbreviation controlling area

The right pane shows the detailed view of the selected term entry, displaying the term and its various abbreviations in different languages.

# Terminology distribution

***Shipment / availability based on defined user roles***





## SAPterm statistics (Jan 2019)

Standard languages: 41



Arabic	Danish	German	Japanese	Persian	Slovenian
Bulgarian	Dutch	Greek	Kazakh	Polish	Spanish
Catalan	English	Hebrew	Korean	Portuguese	Swedish
Chinese (Simplified)	Estonian	Hindi	Latvian	Romanian	Thai
Chinese (Traditional)	Finnish	Hungarian	Lithuanian	Russian	Turkish
Croatian	French	Italian	Malaysian	Serbian	Ukrainian
Czech			Norwegian	Slovakian	Vietnamese
					Welsh

Additional non-standard languages (some not in SAPterm) include:

Afrikaans      French (Canada)      Portuguese (Portugal)      Spanish (Columbia)

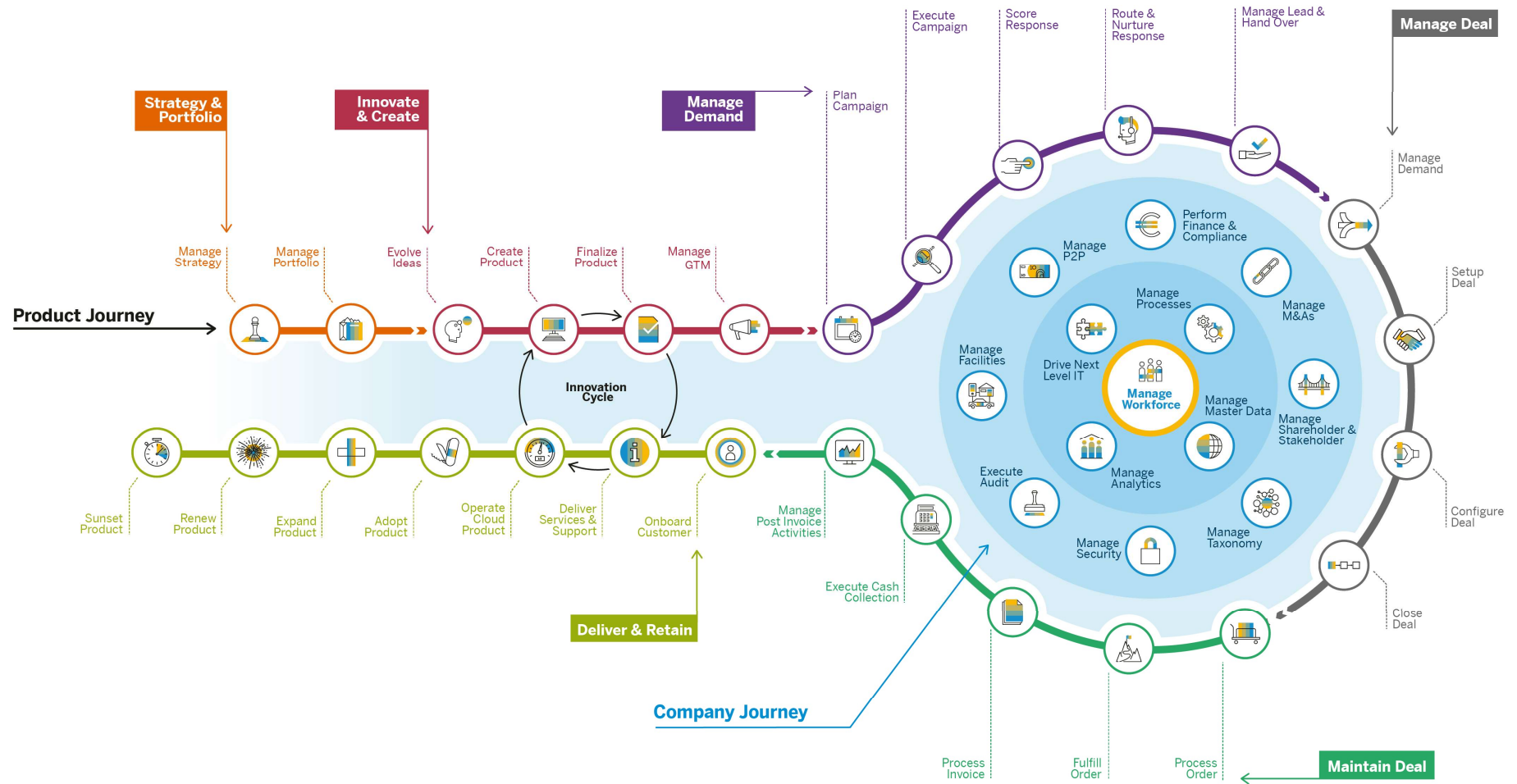
New languages in 2019 (maybe?) :

[REDACTED]

Term entries: **4.8 million** (250,000 EN / DE source entries with equivalents in up to 48 languages, plus 355,000 variants such as abbreviations)

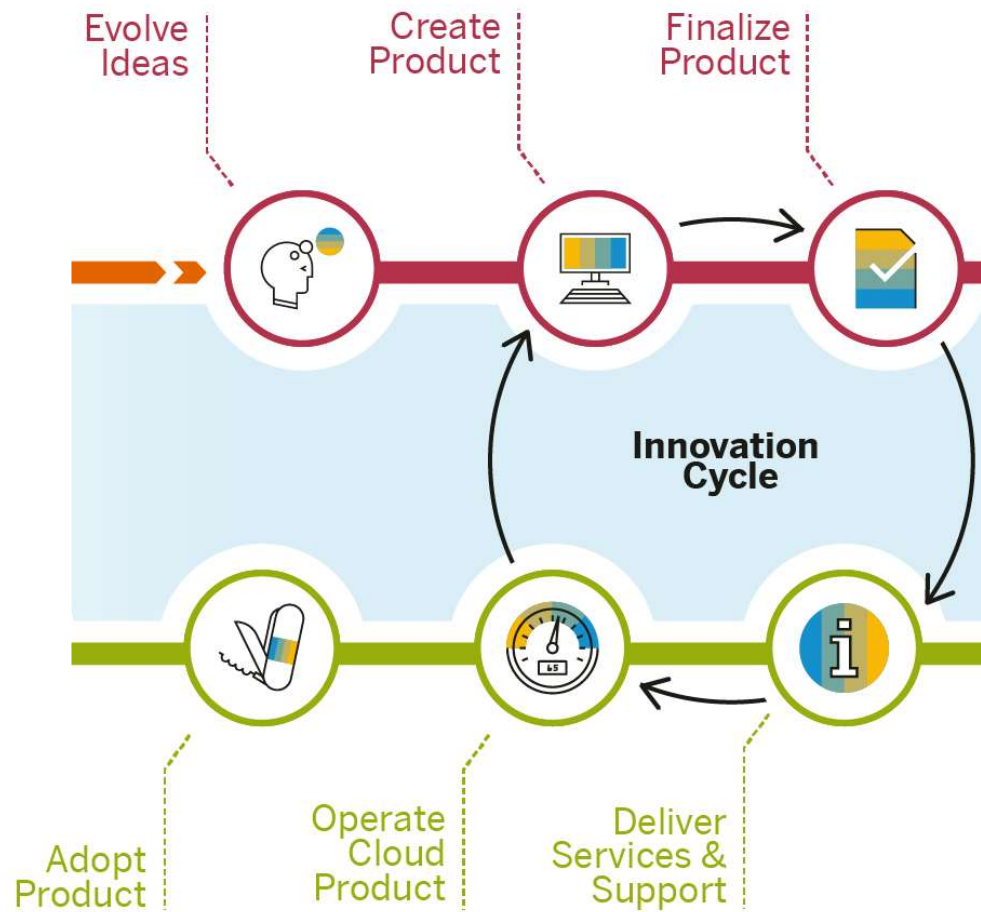


# The process journey at SAP

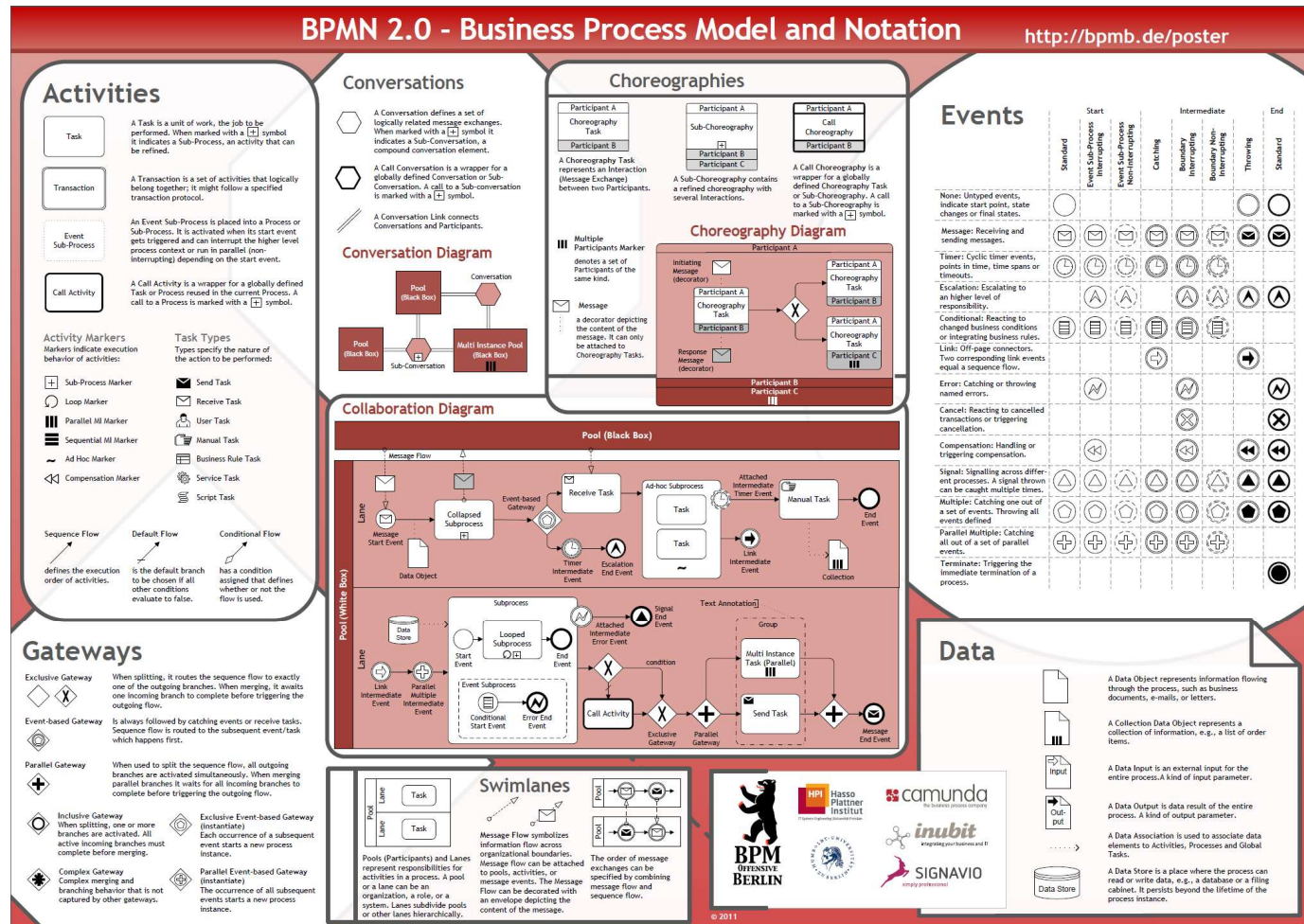




## The innovation cycle at SAP







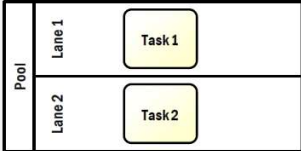





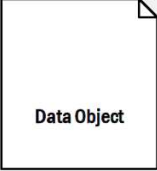


# Business Process Model and Notation (BPMN) 2.0

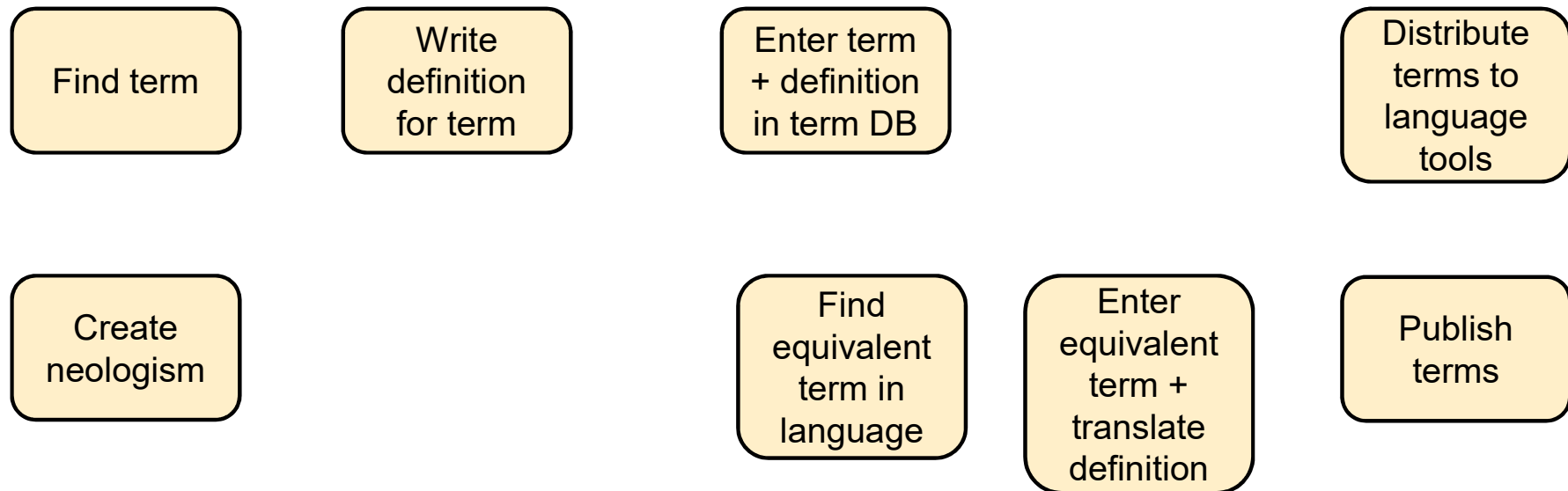











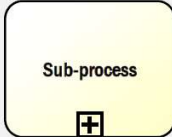




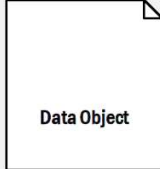
# Overview of BPMN 2.0 elements used at SAP – tasks

	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	<b>Activities</b> 	<b>Events</b>  None Start Event  None End Event	<b>Gateways</b>  Exclusive Gateway  Parallel Gateway	 Sequence Flow		
Descriptive Process Models	 Sub-process	 Link Intermediate Event Catching  Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		 Data Object

## Terminology management tasks – examples



# Overview of BPMN 2.0 elements used at SAP – events

	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	<b>Activities</b> 	<b>Events</b>  None Start Event  None End Event	<b>Gateways</b>  Exclusive Gateway  Parallel Gateway	 Sequence Flow		
	<b>Descriptive Process Models</b>		 Link Intermediate Event Catching  Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association	 Data Object



## Terminology management events – examples

Start  
event



Standard term  
needed



Term feedback  
received



Term data  
updated

End  
event



Standard term  
provided

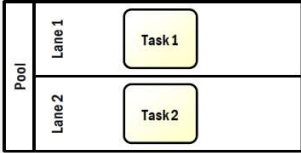










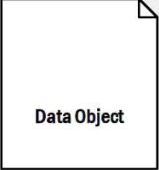


Term review  
finished

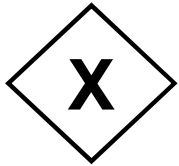


Term website  
updated

# Overview of BPMN 2.0 elements used at SAP – gateways

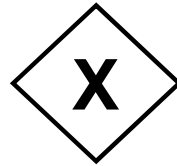
	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	Activities	Events	Gateways	Sequence Flow		
		 None Start Event   None End Event	 Exclusive Gateway   Parallel Gateway			
Descriptive Process Models		 Link Intermediate Event Catching   Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		

## Terminology management gateways – examples



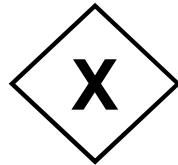
Is the term  
correct?

(Conditions: *Yes* or *No*)

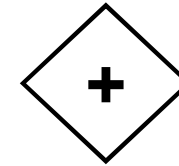


Is the data  
available?

(Conditions: *Yes* or *No*)

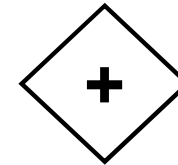


Is the colleague  
authorized to make  
term DB entries?  
(Conditions: *Yes* or *No*)



Multiple conditions met:

- Term correct
- Data available







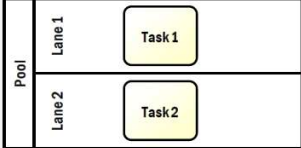





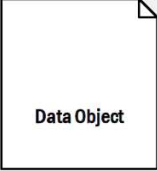


Multiple conditions met:

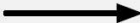
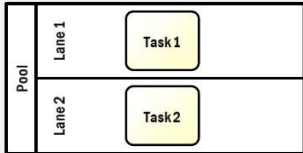










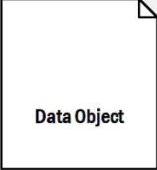
- Term correct
- Data available
- Colleague authorized



# Overview of BPMN 2.0 elements used at SAP – connecting objects

	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	<b>Activities</b> 	<b>Events</b>  None Start Event  None End Event	<b>Gateways</b>  Exclusive Gateway  Parallel Gateway	 Sequence Flow		
Descriptive Process Models		 Link Intermediate Event Catching  Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		 Data Object

# Overview of BPMN 2.0 elements used at SAP – pools and lanes

	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	Activities	Events	Gateways	 Sequence Flow		
	 Task	 None Start Event   None End Event	 Exclusive Gateway   Parallel Gateway			
Descriptive Process Models	 Sub-process	 Link Intermediate Event Catching   Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		 Data Object

## Terminology management pools and lanes – examples

*Pool*

Harmonize terminology	Tech writer	
	Translator	

*Lane*

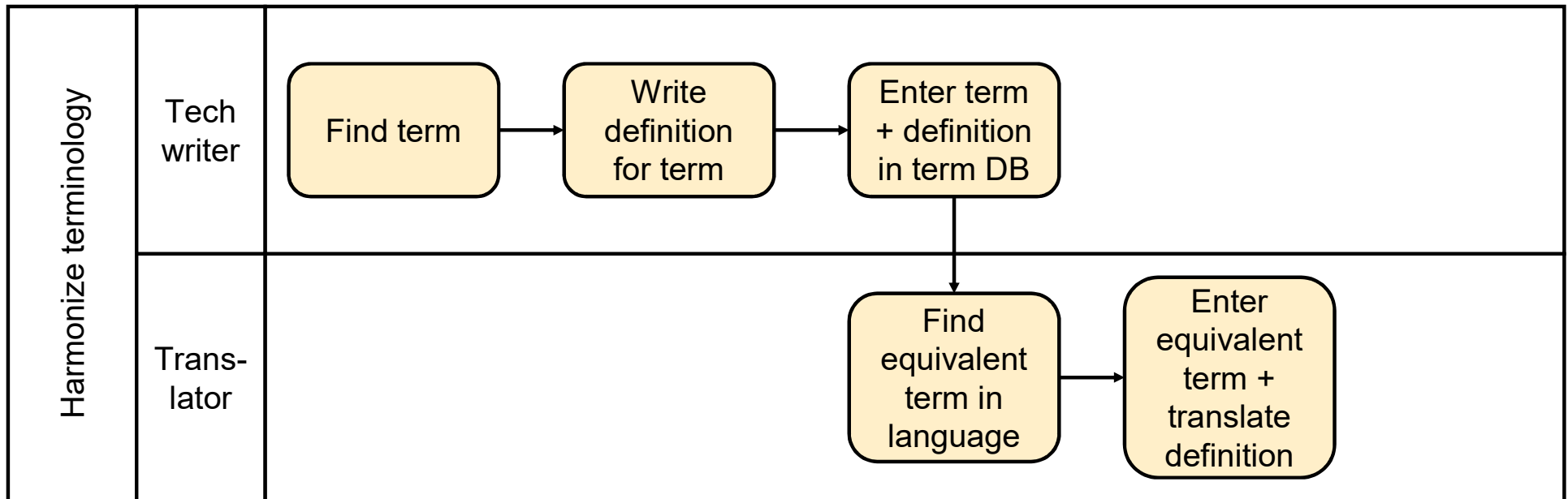
*Lane*



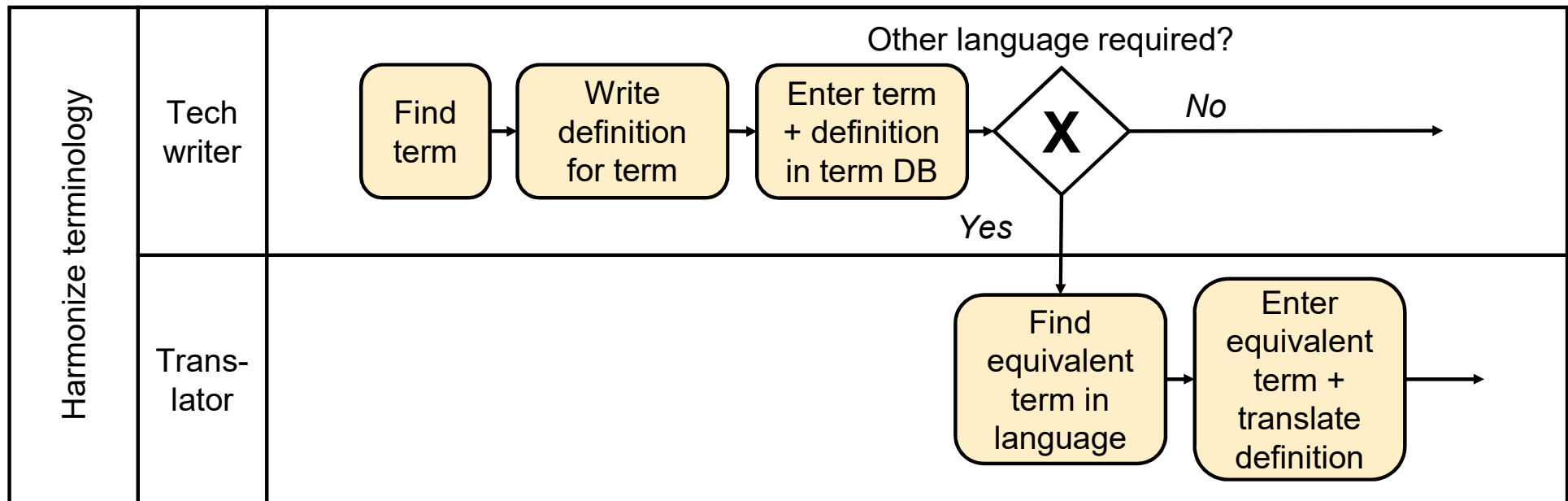
## Terminology management participants and tasks – examples (I)

Harmonize terminology	Tech writer	Find term	Write definition for term	Enter term + definition in term DB
	Translator	Find equivalent term in language	Enter equivalent term + translate definition	

## Terminology management participants and tasks – examples (II)

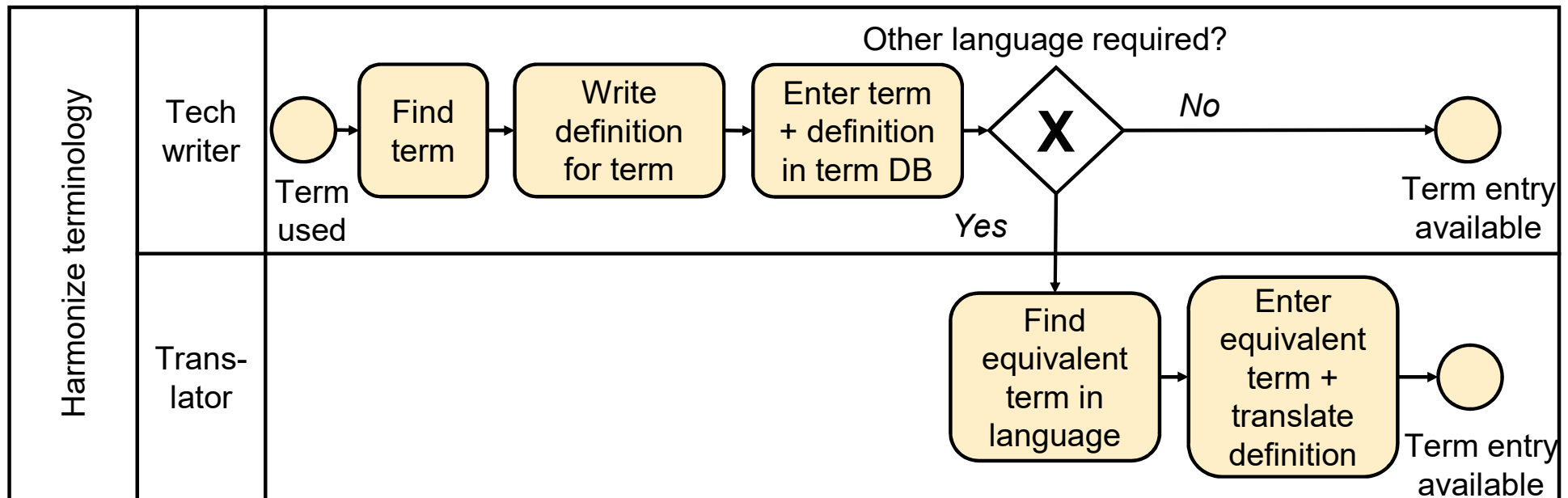


## Terminology management participants and tasks – examples (III)

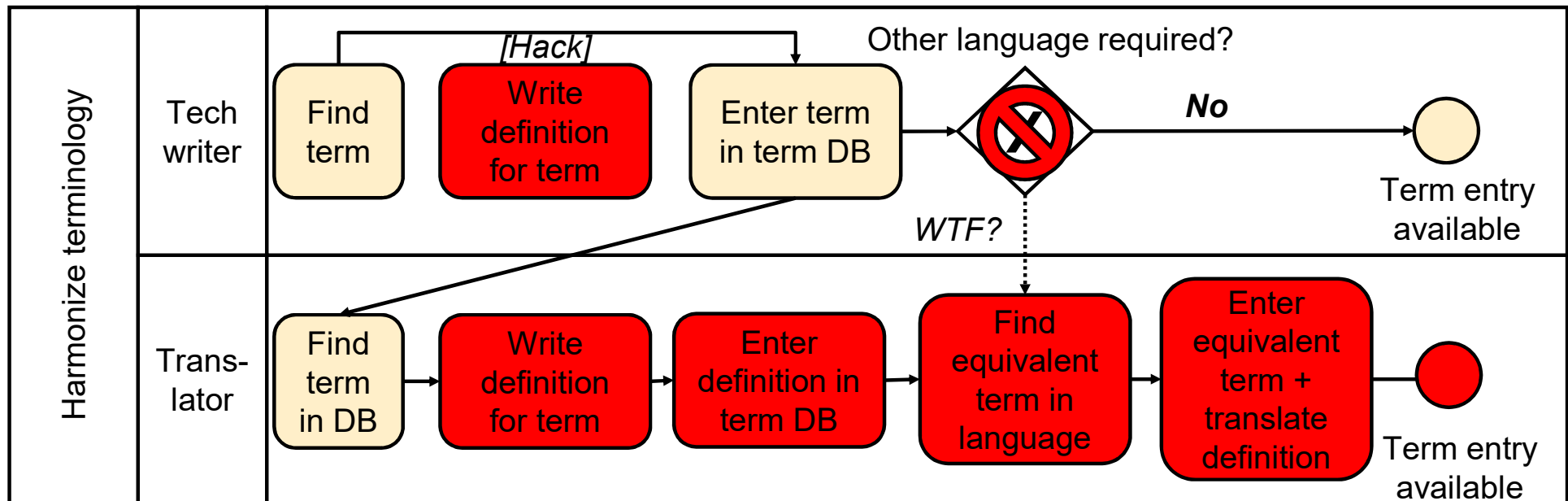










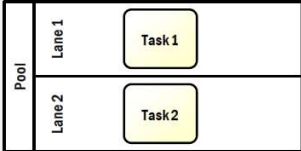





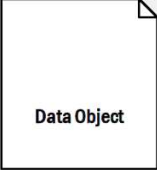
## Terminology management participants and tasks – examples (III)



# Terminology management process EPIC FAIL!







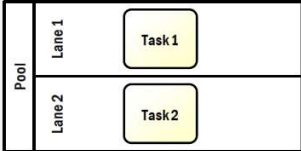





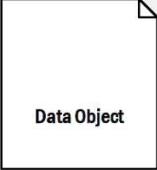


# Overview of BPMN 2.0 elements used at SAP – sub-processes







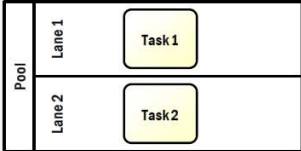





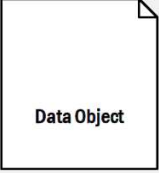
	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	<b>Activities</b> 	<b>Events</b>  None Start Event  None End Event	<b>Gateways</b>  Exclusive Gateway  Parallel Gateway	 Sequence Flow		
Descriptive Process Models		 Link Intermediate Event Catching  Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		 Data Object



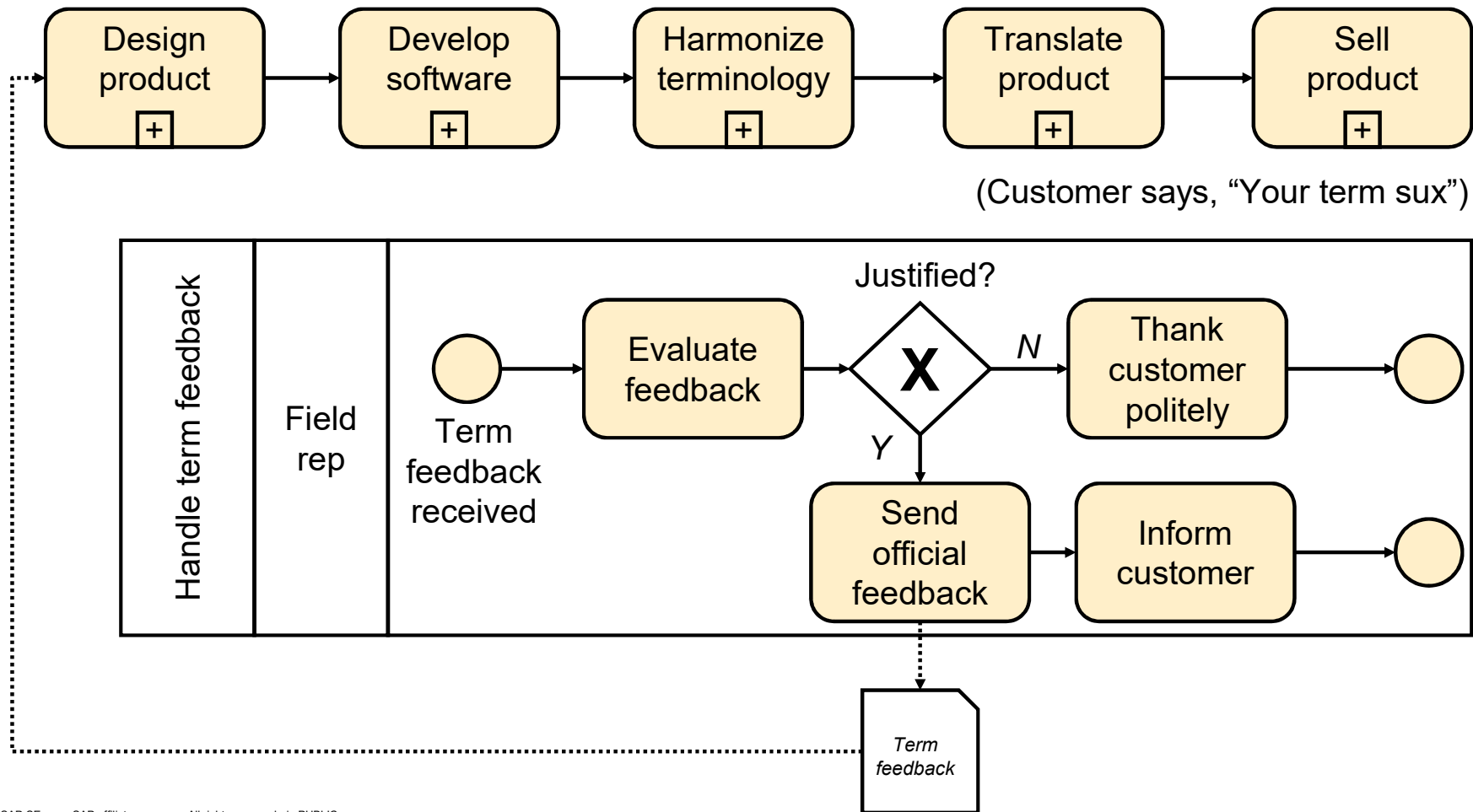
# Overview of BPMN 2.0 elements used at SAP – process model connectors

	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	<b>Activities</b> 	<b>Events</b>  None Start Event   None End Event	<b>Gateways</b>  Exclusive Gateway   Parallel Gateway	 Sequence Flow		
Descriptive Process Models		 Link Intermediate Event Catching   Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		 Data Object

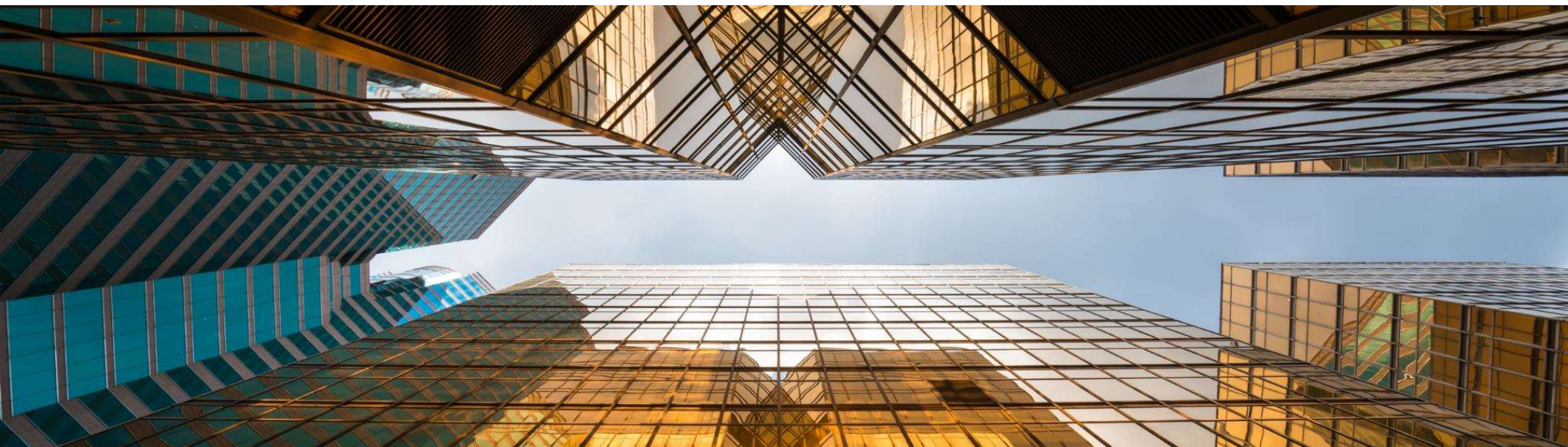
# Overview of BPMN 2.0 elements used at SAP – data objects

	Flow Objects			Connecting Objects	Participants	Input / Output
Simple Process Models	<b>Activities</b> 	<b>Events</b>  None Start Event  None End Event	<b>Gateways</b>  Exclusive Gateway  Parallel Gateway	 Sequence Flow		
Descriptive Process Models		 Link Intermediate Event Catching  Link Intermediate Event Throwing	 Inclusive Gateway	 Data Association		 Data Object

## Terminology management sub-processes and data objects – example



# Improving term management with business process modelling



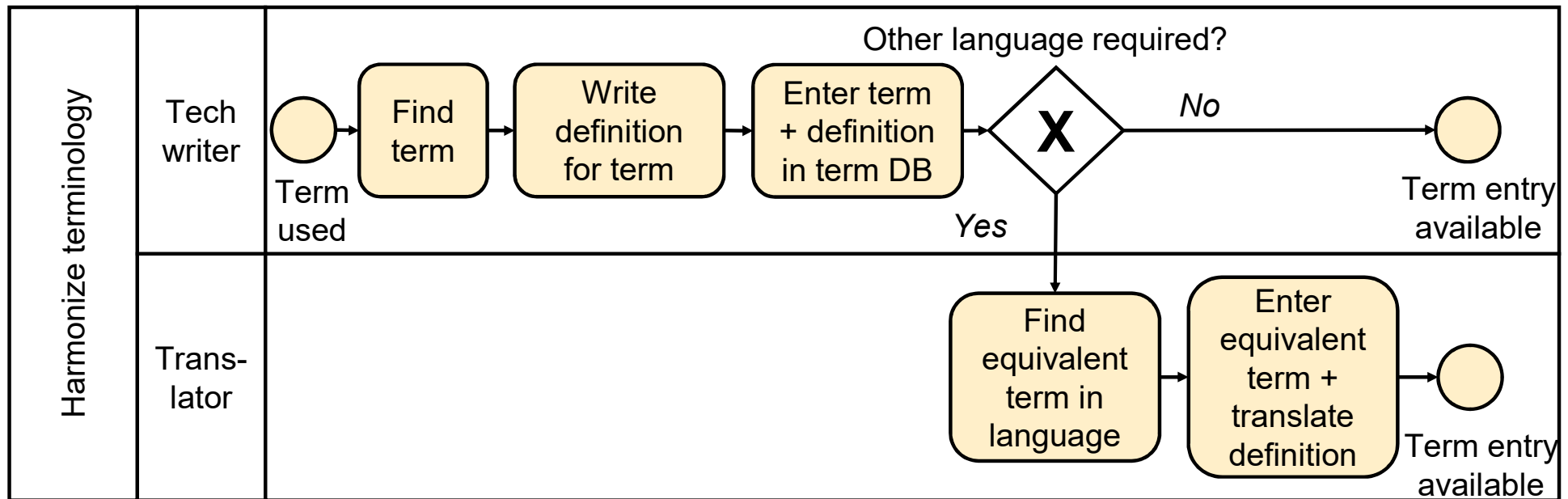


## Speeding up terminology management – how?

*10 minutes?  
(10 hours?)  
(never?)*

*15 minutes  
(+ 1-hour  
meeting)*

*5-10 minutes  
(depends)*



*5 seconds  
(Google!)*

*2 minutes for term;  
3 days for definition  
(translation memory  
system down)*

## Taking tasks to task – example

What are the problems?

- Massive amounts of information to process
- Visual searching, manual checking
- Can't find all the resources for research
- Can't contact field representatives, consultants, customers, university researchers ...
- Only so many hours in the day
- We're only human



Find  
term

## Finding ways around task-based barriers – example

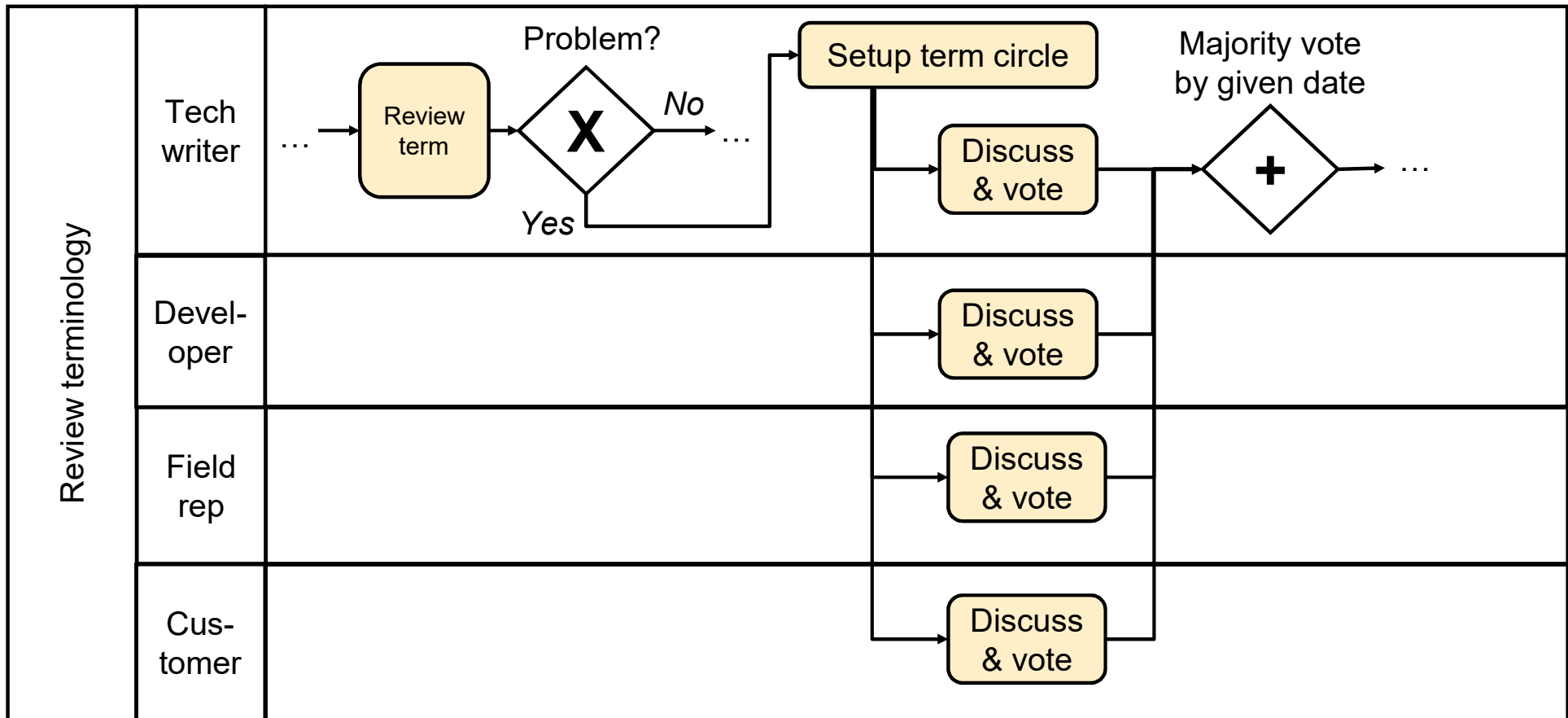
What could be viable solutions?

- Term extraction tool – search through sources and suggest term candidates; automatically include metadata, contexts, and automated online searching
  - Requires tool, tool support, licenses ...
  - Develop or purchase?
- Term review platform – discussion and decision platform for the colleagues dealing with individual terms or term collections
  - Same as above



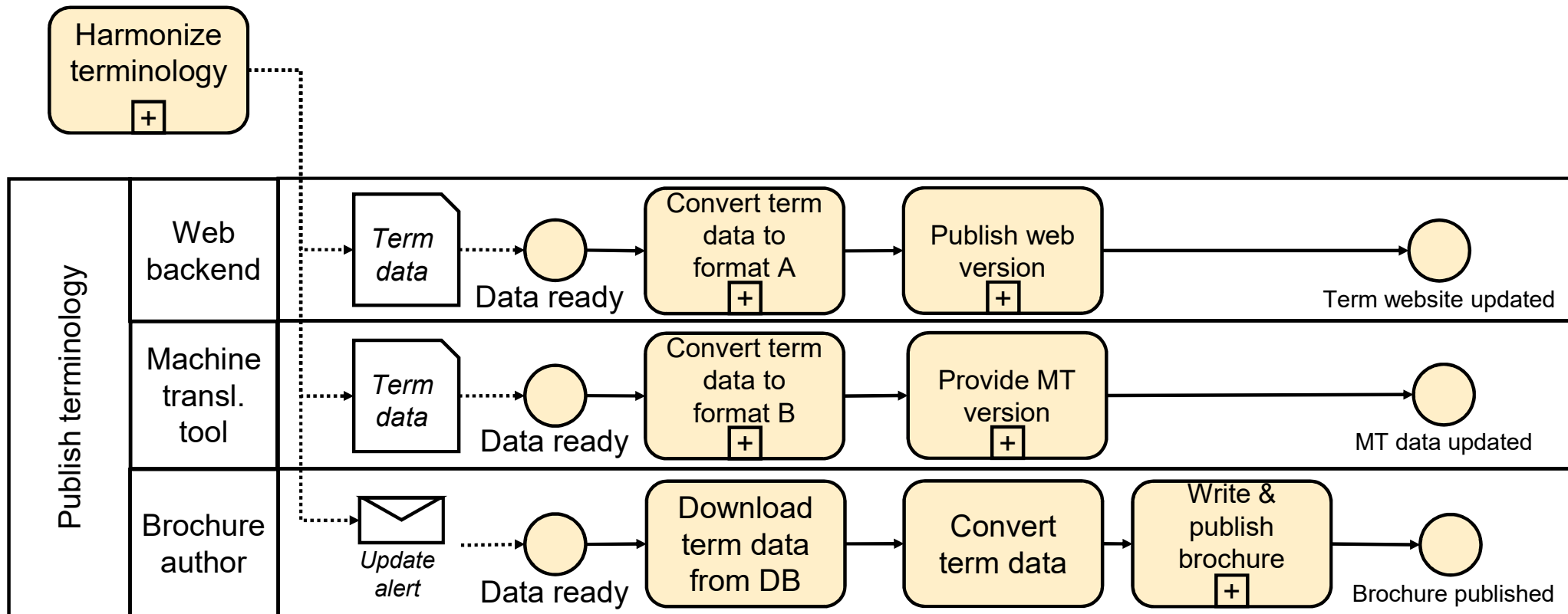
Find  
term

## Differentiating tasks and adding participants – example

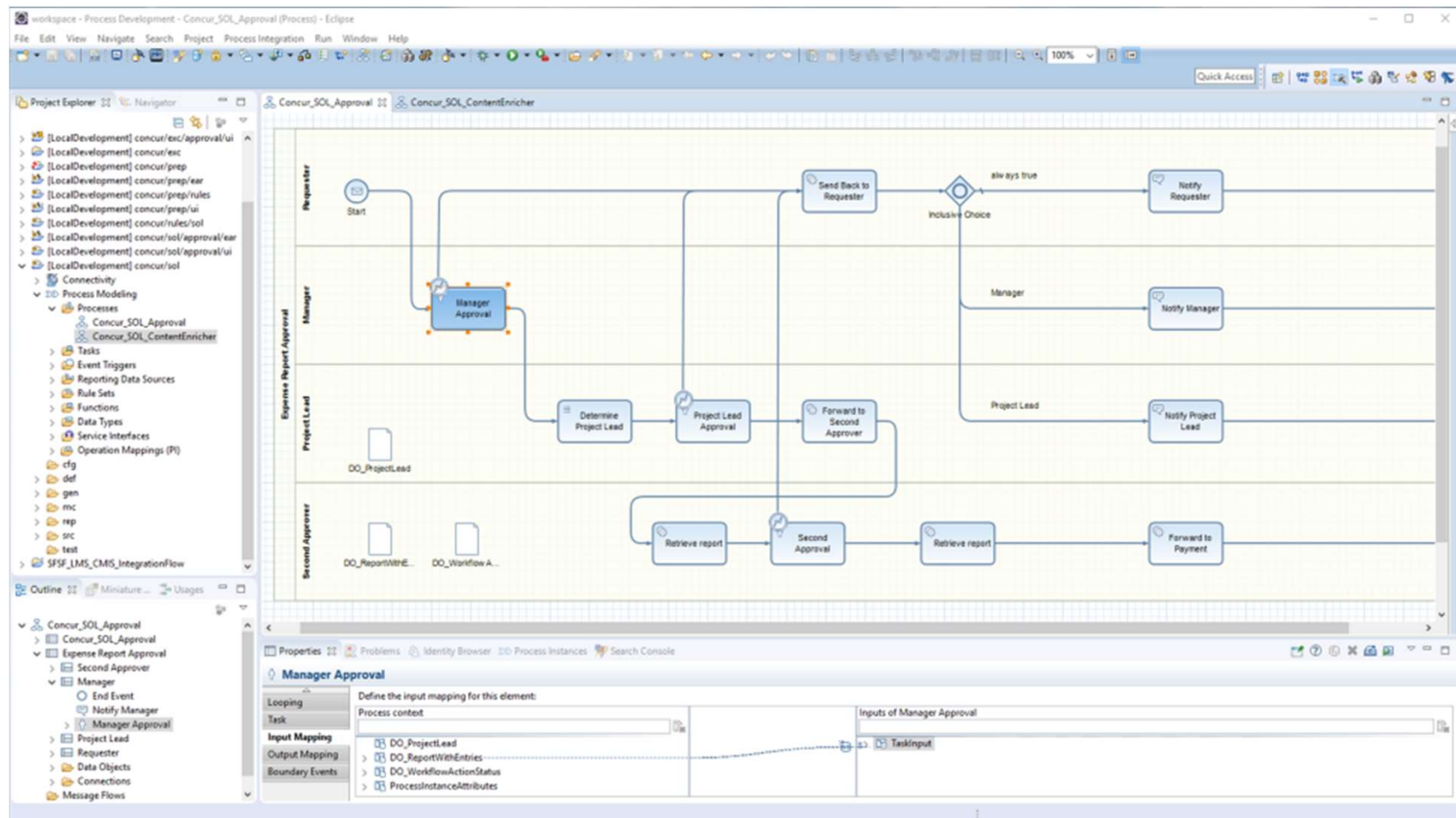




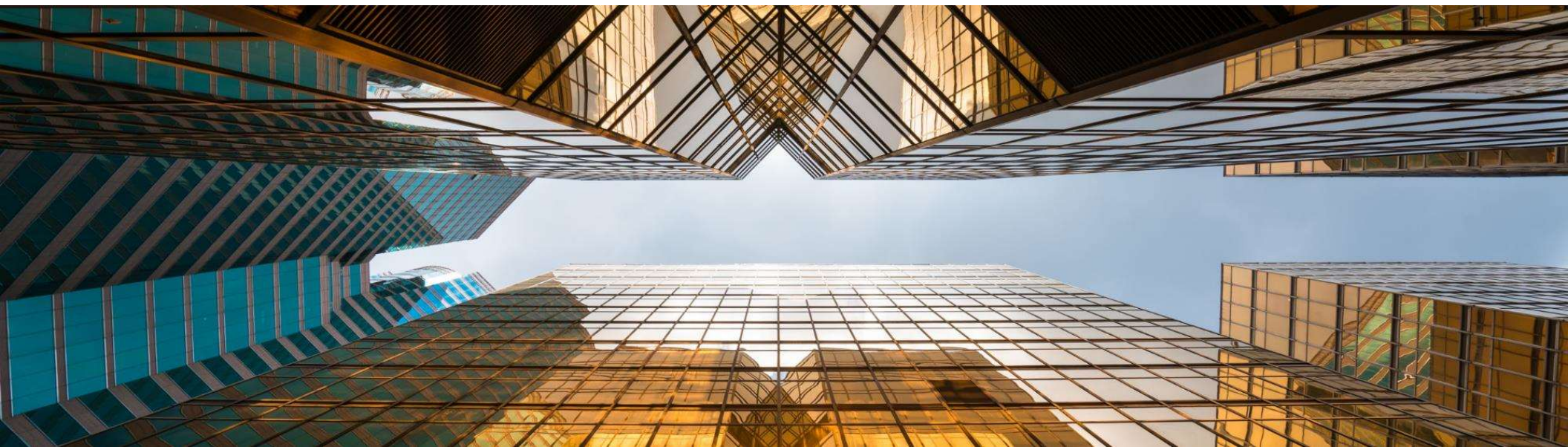
## Human and non-human participants in processes – example



# Business process modelling and software development – example



# Summary and Q&A



# Terminology management and business process modelling – summary

Term management can benefit greatly from business process models:

- Look at the REAL situation – all tasks, all dependencies, all connections
- Quick fixes
  - Determine where the process isn't working
  - Decide how to get around problems (or demonstrate why no solution is possible at that time)
  - No “Big Bang Theory” – improve step-by-step to gain managerial support
- Create a model of the IDEAL situation – show where you want to go
- Long-term fixes
  - Be ready to apply innovative technologies to long-standing problems
  - Take advantage of reorganizations and large-scale initiatives
- Advertise the successes
- Be patient (or stubborn!)



## For further study and reference

- SAP SE corporate website – [www.sap.com](http://www.sap.com)
- SAP terminology website – [www.sapterm.com](http://www.sapterm.com)
- *BPMN Method & Style*, 2<sup>nd</sup> edition – Bruce Silver (2011)
  - Free specification, documents, quick guides, and other information available on <http://www.bpmn.org>
- *Einführung in die Terminologearbeit*, 7. Auflage – Arntz / Picht / Schmitz (2014)
- *Terminologearbeit Best Practices 2.0* [2. Auflage] – Deutscher Terminologie-Tag (2014)
- *Empfehlungen für die Terminologearbeit*, 3. Auflage - Konferenz der Übersetzungsdienste europäischer Staaten / KÜDES (2018)
  - Free PDF on <https://www.bk.admin.ch/bk/de/home/dokumentation/sprachen/publikationen-zur-terminologie.html>
- *Terminology Starter Guide*, 2<sup>nd</sup> version – Terminology for Large Organizations (2016)
  - Free PDF on <http://www.terminorgs.net/Terminology-Starter-Guide.html>
- *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation* – Ikujiro Nonaka and Hirotaka Takeuchi (1995)
- *The Checklist Manifesto: How To Get Things Right* – Atul Gawande (2009)

# Thank you.

Contact information:

**Mark D. Childress**

Terminology Manager

Dietmar-Hopp-Allee 16

69190 Walldorf, Germany

[mark.childress@sap.com](mailto:mark.childress@sap.com)

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