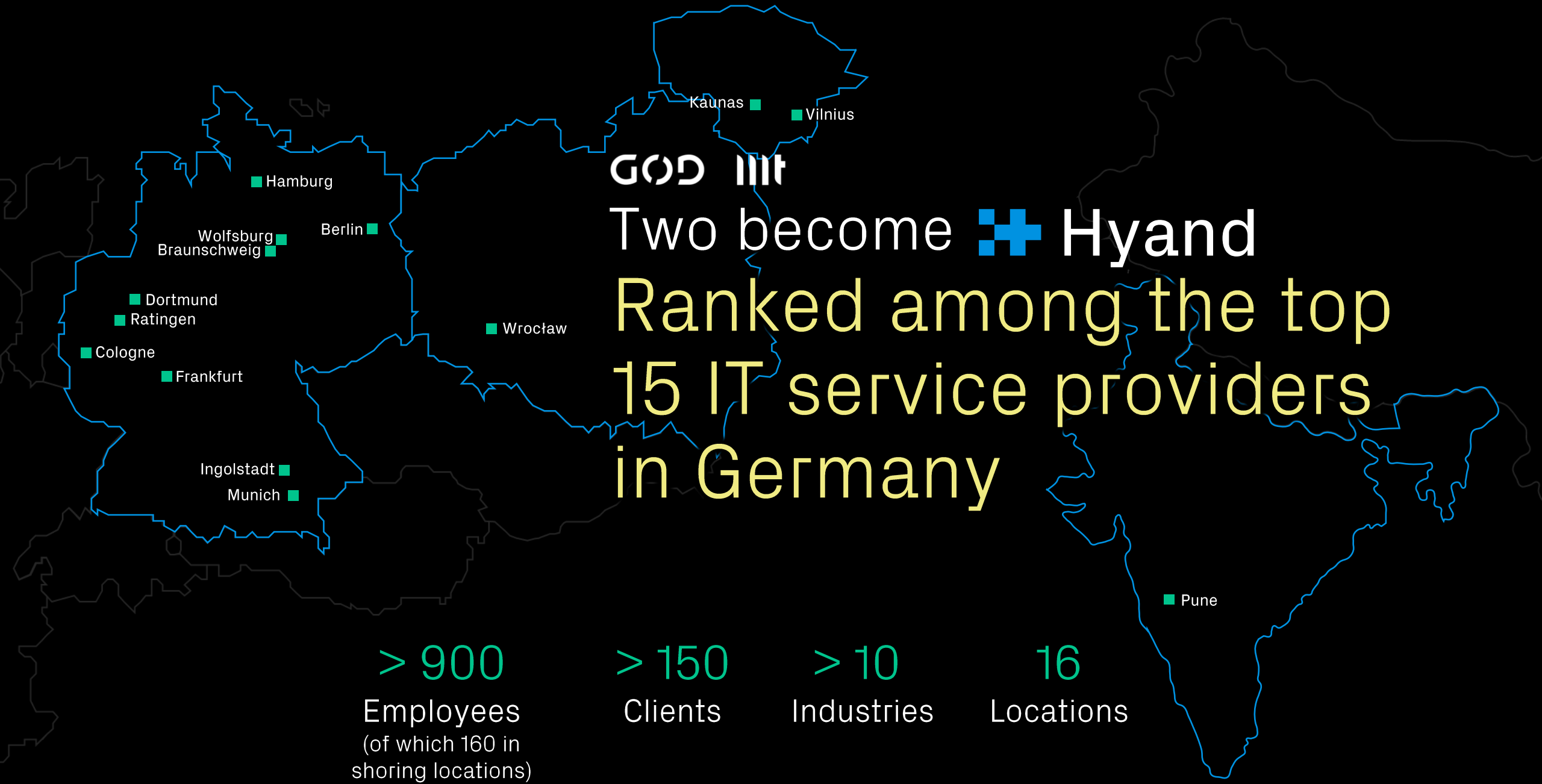
21.03.2025

APEX Search & Oracle Text
No AI needed?

code of change

Hyand



GOD mt

Two become Hyand

Ranked among the top 15 IT service providers in Germany

> 900	> 150	> 10	16
Employees (of which 160 in shoring locations)	Clients	Industries	Locations

Oracle ACE

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What is Oracle Text?

Let's start with a little quiz.

Oracle Text is Enterprise Edition only

False

Oracle Text was introduced in Oracle 8

True

Oracle Text can index Word Documents

Oracle Text can analyse Images

False

Oracle Text can analyse Images

False

Have you used Oracle Text before?

Oracle Text Overview

Oracle Text

- Provides Full-Text Search Capabilities
- Available in all Database Editions
- Make available for a schema by granting CTXAPP privilege.

```
grant ctxapp to my_schema
```

Oracle Text Index Types

- CONTEXT
  - Index large coherent text documents
- SEARCH INDEX
  - Similar to above, also supports sharded database
- CTXCAT
  - Mixed queries with smaller text documents and additional columns
- CTXRULE
  - Document classification or routing

Oracle Text and TDE

- Supported for tables in TDE enable tablespaces
- Not supported for TDE-enabled columns
  - Oracle Text is a domain index

Indexing Flow

- Read from Datastore object
- Run through Filter object
- Run through Sectioner object
- Run through Lexer object
- Run through Indexing Engine

Let's take it for a spin

Oracle Text Preference

```
PROMPT Oracle Text Datastore Setting
begin
  -- Create your own preference
  -- USER_DATASTORE means using a custom PL/SQL procedure for input
  ctx_ddl.create_preference(
    preference_name => 'pdb_global_datastore', object_name => 'USER_DATASTORE'
  );

  -- Tell the preference which procedure to use
  ctx_ddl.set_attribute(
    preference_name => 'pdb_global_datastore'
  , attribute_name => 'procedure', attribute_value => 'PDB_GLOBALE_SUCHE_PKG.PR_INDEX_FEEDER'
  );

  -- Tell the preference to use a CLOB for the output
  ctx_ddl.set_attribute
  ( preference_name => 'pdb_global_datastore'
  , attribute_name => 'output_type', attribute_value => 'CLOB_LOC'
  );
end;
/
```

```
PROMPT Text Index on dummy column with custom Datastore
-- Use previously defined datastore
-- No filtering applied
-- Let Oracle Text to automatic sectioning (works because the procedure supplies XML)
create index my_text_ix on my_table ( dummy_col )
  indextype is ctxsys.context
  parameters ('datastore pdb_global_datastore
               filter ctxsys.null_filter
               section group ctxsys.auto_section_group'
             )
;

```

Vector Search

Quick Demo

General thoughts & Closing

Things to look out for

- Performance impacts
- Modifying your PL/SQL data feeder

Oracle Text

- Available since Oracle 8
- Exact matches mostly
- Allows fuzzy operators
- Does not hallucinate

Vector Search

- Needs Oracle 23ai
- Less exact
- Will always answer
- Might hallucinate

Further Improvements / Thoughts

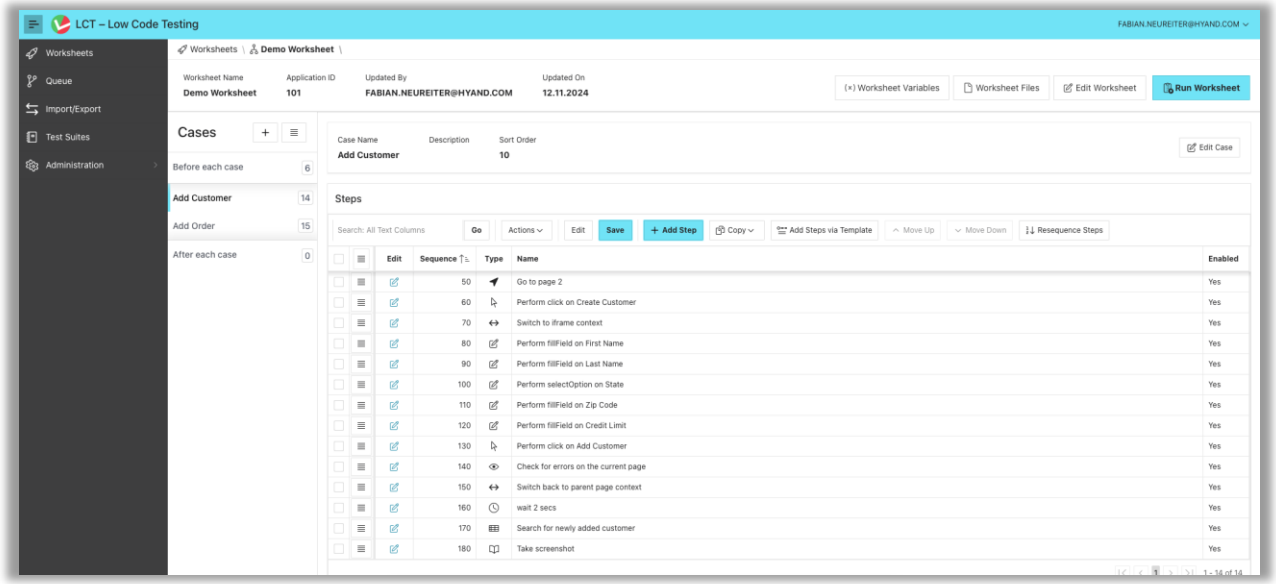
- Use Oracle Text, but generate the search term using an LLM
- Prefilter using Oracle Text, then hand over to Vector Search

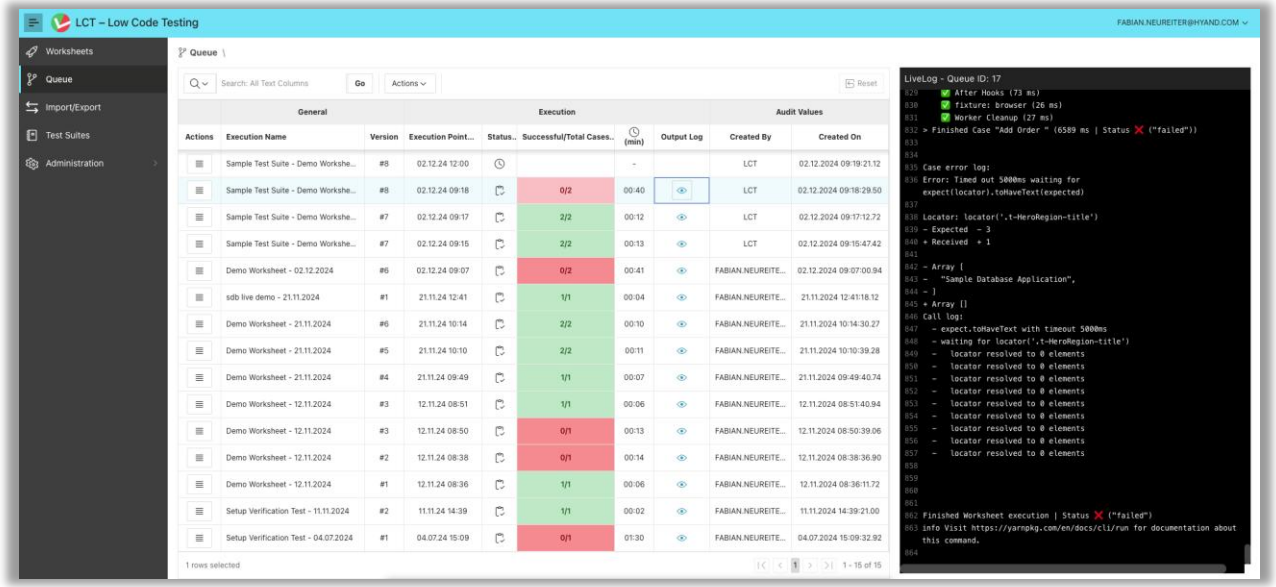
- Let's discuss

NL.OUG
NL ORACLE USER GROUP

LCT – Low Code Testing

- **Write test that are stable and easy to maintain – no coding required**
- **Comprehensive reporting**
- **Schedule tests for repeat execution**
- **Easy selector handling**





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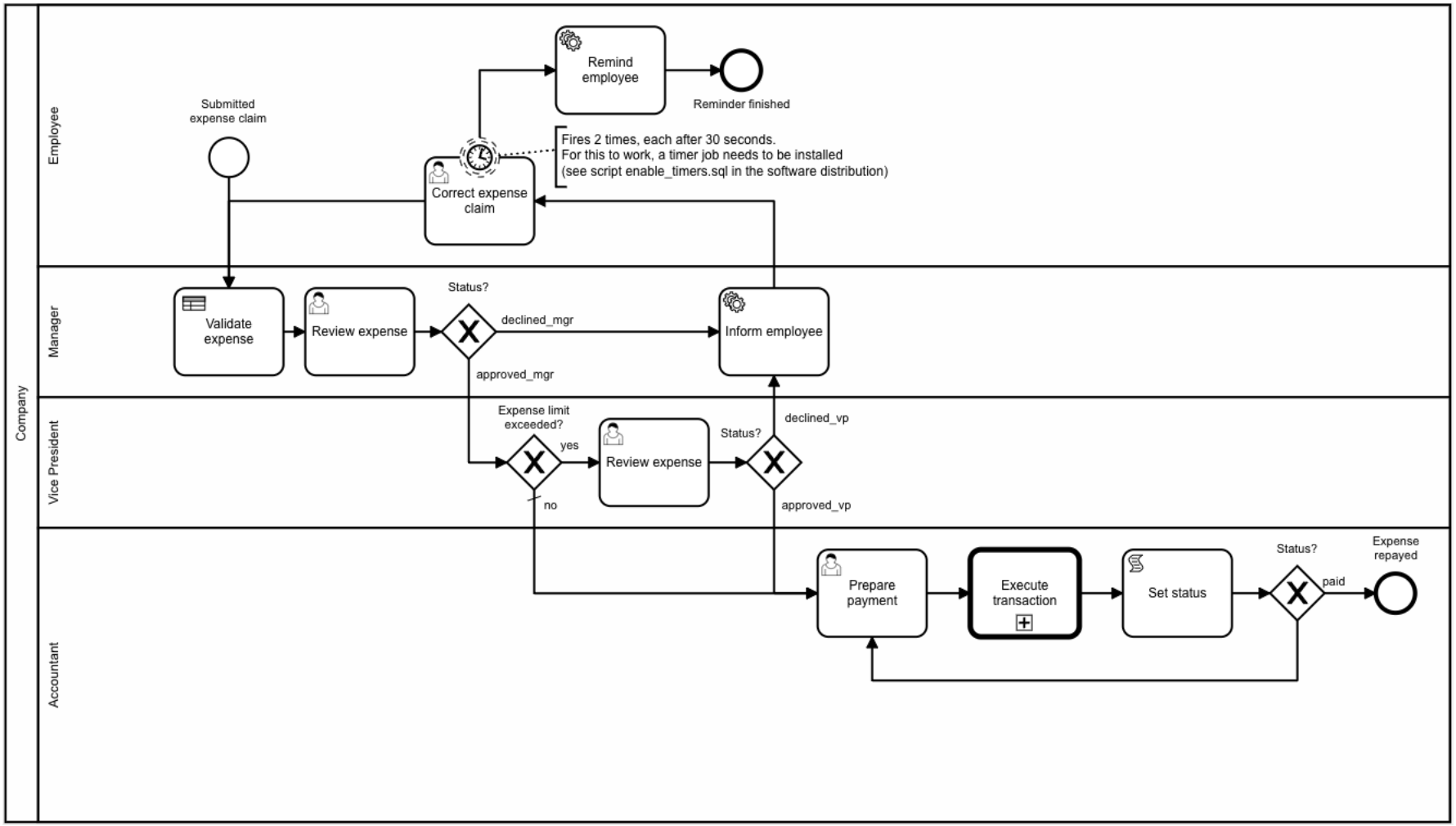
Flows for APEX

BPMN 2.0 Workflows for APEX



- Open Source
- Community Driven
- Support available

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Say Hy_

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