



# Hackathon ING Groupe 32

INNOVATION FOR  
TOMORROW'S BANKING



# Problem & Objective



- 1 CONTEXT & OBJECTIVE
- 2 LIVE DEMONSTRATION
- 3 TECHNICAL EXPLANATION

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## Context & Objective

- ING Belgium wants a voice-enabled assistant for banking services.
- Key challenges:
  - Multi-language support (Dutch required, French/English bonus)
  - Context-aware responses for banking tasks
  - Fast, natural, secure voice interaction
- Our goal: Guide users efficiently using AI-powered voice assistant



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## Demo Overview

- Quick walkthrough of the prototype:
- User speaks → Assistant understands → Responds naturally
- Handles tasks like:
  - Checking account balance
  - Viewing transactions
  - Blocking cards / requesting info
- Focus on ease of use and fast response



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## Live Demonstration

- Show the prototype in action.
- Example interaction:
  - User: "I want to check my savings account balance."
  - Assistant: "Your balance is XXX EUR. Do you want to see recent transactions?"
- Highlight: context-aware responses, voice interaction, multi-language support





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## Problem & Objective

- Voice Interface: Speech-to-Text & Text-to-Speech
- Backend & AI:
  - NLP: SentenceTransformer + TF-IDF for semantic and keyword understanding
  - Similarity: Cosine similarity to match user queries with banking information
  - Voice: Google Cloud Speech-to-Text and Text-to-Speech
- Data:
  - Synthetic banking data: customers, transactions, products
  - Website content chunks for FAQ and guidance
- Optimizations:
  - Multi-language support, low latency, secure handling
- Security:
  - When a user interacts with the assistant, their voice is securely recorded and analyzed.
  - This allows potential voice-based authentication to verify the user's identity before sensitive actions (like blocking a card or viewing account details).
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# Connect with ING Groupe 32 Today



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