# Solution BI Case

# DATA
# CHALLENGE

## 2025 Edition

**CSD**

**X**

**SOLUTION·BI**

## Solution BI

Solution BI is an international company specializing in data analysis and performance management. Its consultants master all aspects of business intelligence, big data and data science, offering services such as data governance, architecture, management and data platforms. Their mission is to help companies maximize the use of their data to improve performance and decision-making.

The Montreal subsidiary, present in the market since 2016, focuses on advanced data analysis and artificial intelligence (AI). It offers innovative data visualization and data science solutions, helping local companies harness the potential of AI to optimize their decision-making processes and identify new growth opportunities.

## AI to optimize the staffing process

### Context

As a consulting firm, Solution BI meets the needs of numerous organizations that call on its expertise for projects, mandates or specialized consulting. When a customer submits a request, a form detailing the skills required, the desired level of experience, the required languages mastered, and other attributes of the assignment is forwarded to the team in charge of staffing.

For each new request, Solution BI must identify the ideal consultant by calling on the various internal stakeholders involved. This process relies on repeated exchanges, successive validations and coordination between several stakeholders. This involves a considerable amount of manual work to identify availability, compare profiles with the customer's expectations and ensure a good match of skills.

This approach, while effective, is particularly time-consuming. It consumes time and internal resources, lengthens response times and reduces Solution BI's ability to seize opportunities quickly.

## The Case

The aim of this hackathon is to develop a solution based on artificial intelligence to **facilitate the assignment of missions** by automatically ranking the most appropriate consultants for each customer request.

To do so, you will have to design an **intelligent algorithm** capable of :

✓ **Analyzing a customer request** and extracting the essential criteria (skills required, experience, languages, sector of activity, certifications).

✓ **Searching and scoring consultants** according to their expertise, assignment history and future availability.

✓ **Classifying consultants according to their suitability** for the mission, to make the managers' selection easier.

You are free to explore different **AI approaches**, such as:

- NLP (natural language processing)

- Semantic search models

- Generative AI

- **Any other method** that can be used to solve this problem

## Deliverables

✓ **An algorithm** capable of putting forward a "short list" of consultants who would be best suited to the assignment and who are available.

✓ A **scoring method** to assess the relevance of proposed profiles

✓ A **document** describing the method used (slide presentation)

✓ **Bonus**: The architecture of an automated solution designed with a user interface (descriptive solution only, no development required unless time permits it).

## Data

To access the case's data, please join the following Kaggle competition [here](here).

You will also find three examples of client requests in pdf format in your team channel on Teams (**Data Analyst.pdf**, **Data Engineer.pdf** et **Scrum.pdf**). These documents will be useful to solve the case.

## Evaluation grid

| Relevance of the solution (45 points) | /45 |
|---|---|
| Identifying and meeting the case objective | /10 |
| Understanding and adapting to the business context | /10 |
| Relevance and added value of the proposed solution | /15 |
| The solution meets the organization's information needs | /10 |
| **Quality of the technical solution (30 points)** | **/30** |
| Thorough and detailed analysis (depth) | /10 |
| Viability and explanation of solution implementation (ex : scheduling, budgeting, risk assessment/mitigation) | /15 |
| Risk-taking and originality in solving the case | /5 |
| **Quality of the presentation (25 points)** | **/25** |
| Attractiveness of the presentation (appealing visuals, originality, eloquence) | /10 |
| Professionalism (clarity, team cohesion, respect for time, preparation, general attitude) | /5 |
| Dialogue with the jury (mastery of the subject, clear and precise explanations, no irrelevancies) | /10 |
| **Total** | **/100** |