RESILIENT CONSTRUCTION: ANALYTICS FOR ECONOMIC CHALLENGES

Constructora Bolívar

WHO HERE OWNS THEIR HOUSE?

IF NOT, WHO DREAMS OF OWNING ONE?

PEOPLE IN COLOMBIA ALSO DREAM OF THIS

IT'S A COMMON DREAM SHARED BY HUMANITY

30%
OF YOUR HOUSE

70%
OF YOUR HOUSE

DOWN PAYMENT

HOME MORTGAGE LOAN

Secure house purchase at
Constructora Bolívar

Get a house loan with the
bank and pay it gradually

THEY CLOSED THE DEAL BY PAYING **1000 USD** MONTHLY (OF THE 30%)

BUT IN A MATTER OF MONTHS, THIS DRAMATICALLY INCREASED TO **1800 USD**

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BUT IN A MATTER OF MONTHS, THIS DRAMATICALLY INCREASED TO **1800 USD**

THIS TURNED OUT TO BE THE CASE FOR THOUSANDS OF COLOMBIANS...

THINK FOR A MOMENT…

WHAT WOULD YOU HAVE TO DO IF THIS WERE YOUR CASE?

Imagine you have 3 to children.

Higher education to pay….

Bills, loans, and more coming all the time.

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COVID-19 Pandemic

Russia- Ukraine war

Change of government

2020

2022

2022

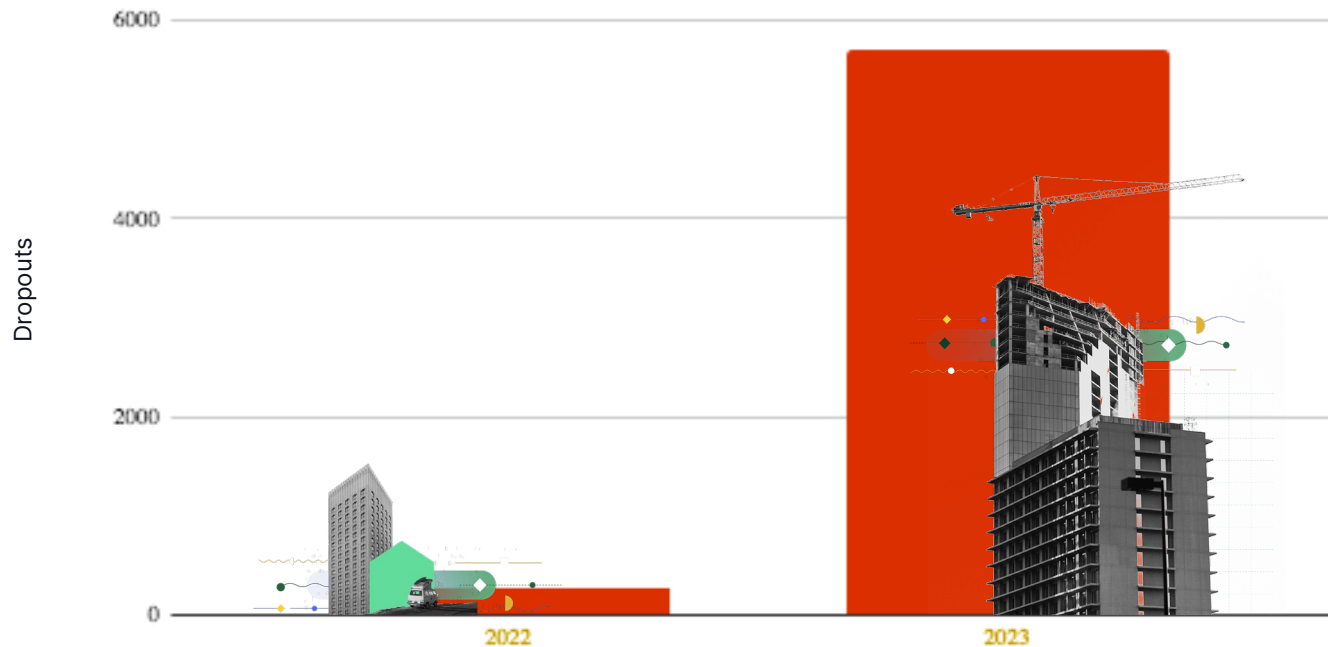## Global and local Skyrocketing inflation

13,12%
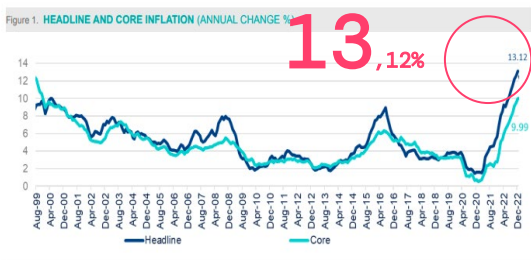
Mortgage interest rates through the roof

18%
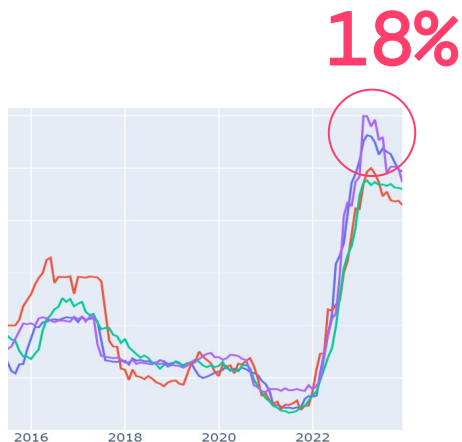
Government subsidies in Colombia in flux
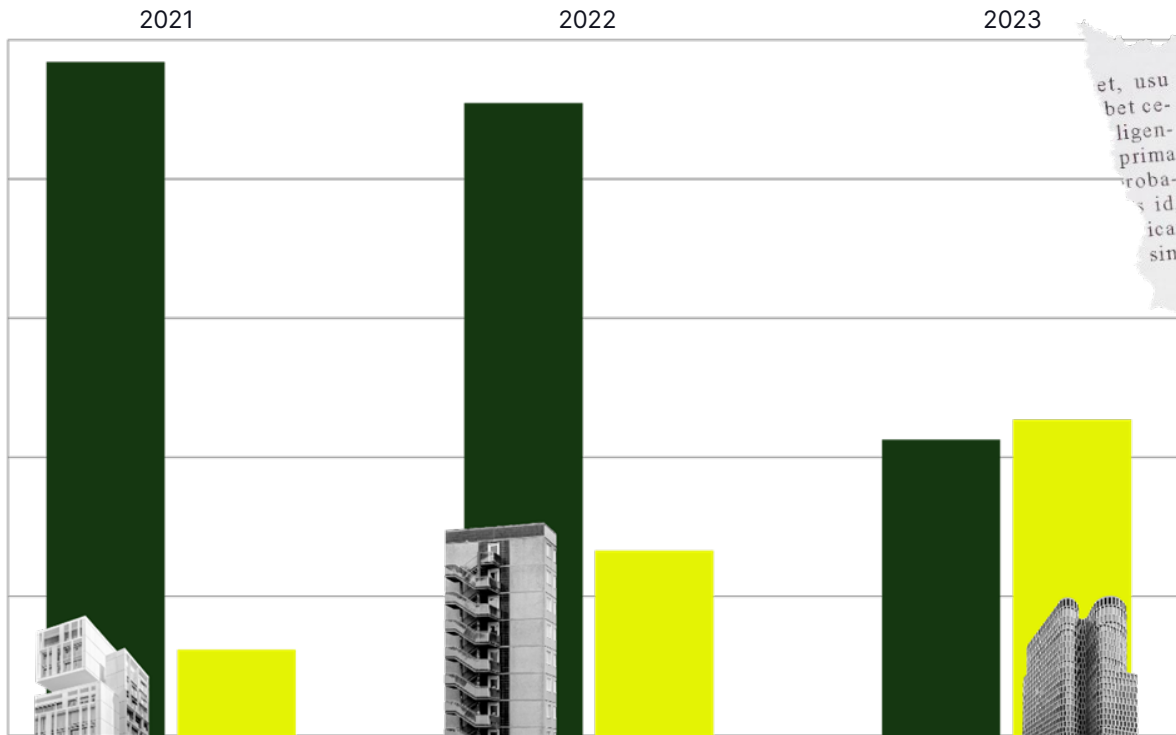
- Subsidy for vulnerable population
- Social Security Subsidy
- Young adults subsidy
- Private subsidy

WHAT WE FORECASTED...

Bar chart with y-axis labeled "Dropouts" (0 to 6000) and x-axis showing years 2022 and 2023. The 2022 bar is small (near 0) and the 2023 bar reaches approximately 5700.

2022-2023=
EXTREMELY HIGH WITHDRAWAL RATES

2021 2022 2023

"Sales plummeted from **207,000 units in 2022 to just 110,000 units in 2023.** This translates to a loss of 97,000 units in sales."

Camacol, 2023

"This represents more than **US$4.5 billion in losses** and marks more than 16 months of continuous decline."

Camacol, 2023

SALES

DROPOUTS

THE CONSEQUENCES

- Shattered dreams

- Frustration

- Uncertainty

"My life savings were

not enough"

- Substantial losses due to inventory accumulation

- Slow cash flows

- Declining reputation of the company

- Country's development at a standstill

MANY PEOPLE STA...

NOTHING WAS TRULY HELPING

S...
or...
de...

Take out more loans to
pay the down payment

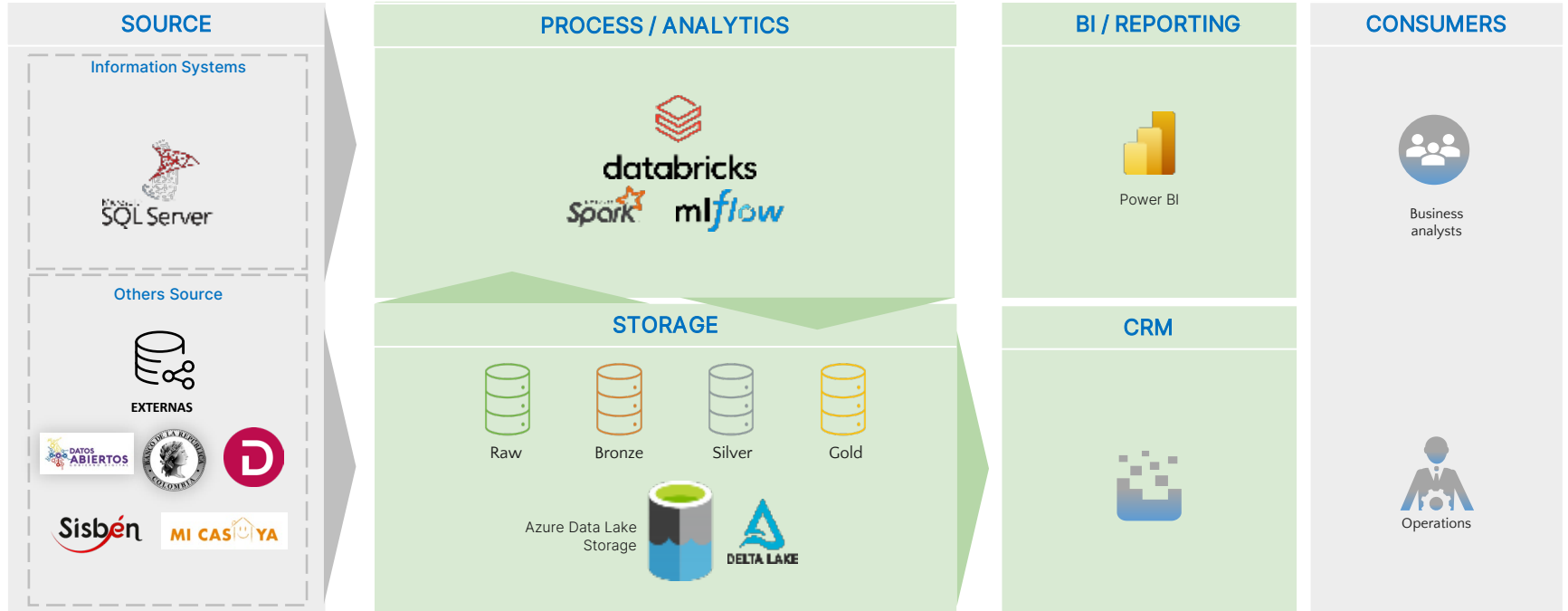# HOW DO WE ENSURE ONGOING CUSTOMER HOME PURCHASES?

HOW DO WE HELP PEOPLE FULFILL THEIR DREAM?

IN THE **BIG DATA ANALYTICS** AREA (BDA), WE SEE <u>BEYOND THE DATA</u> - WHERE ONLY TECHNOLOGY CAN SEE- AND WE LEVERAGE INFORMATION TO HELP PEOPLE GET THEIR HOMES AND FULFILL THEIR DREAM.

RISK MASTER

THE ECOSYSTEM...

8 MACHINE LEARNING MODELS

4 DIMENSIONS OF RISK

A 360° DIAGNOSIS

RISK MASTER

WE FORESEE THE RISK, WE CRAFT SOLUTIONS!

RISKMASTER

1
UNRAVELING CHURN DYNAMICS

We understand customer information and internal payment behaviors

2
SUBSIDY PREDICTION MODEL

We provide insights to empower eligible individuals on their journey towards homeownership

3
INTEREST RATE MODEL

We engage with clients to explore alternative credit arrangements

4
FINANCIAL INSIGHT MODEL

Through this model, we embark on a journey to educate clients about prudent financial choices

UNRAVELING CHURN DYNAMICS

- Customer characteristics

- Internal payment behavior

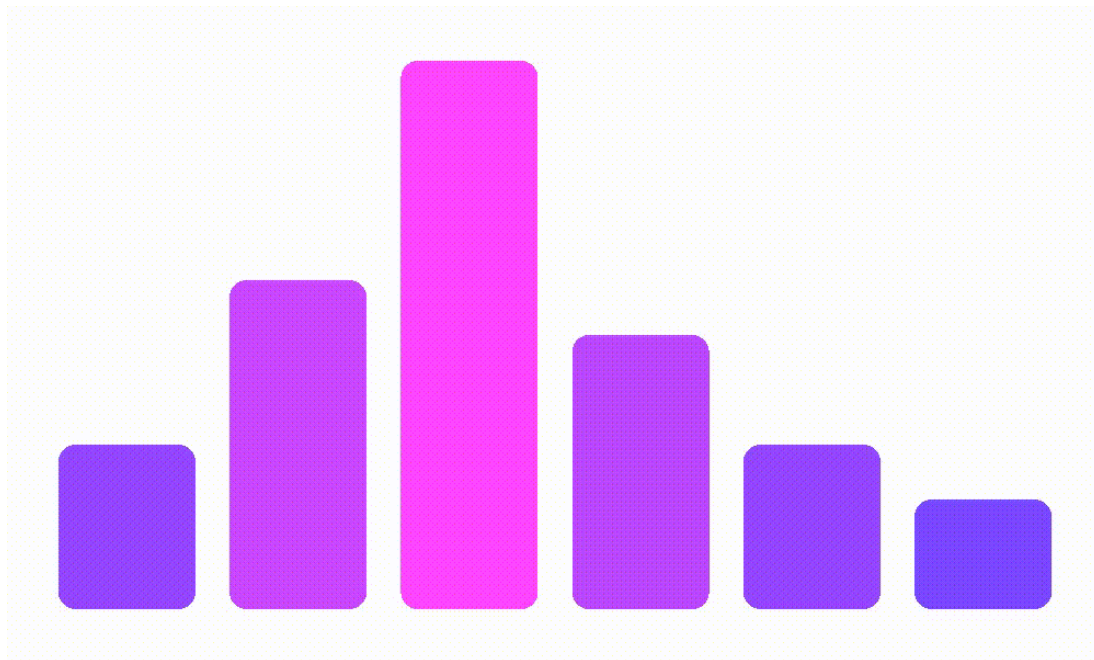- Different models per city

- Customer segmentation

1

SUBSIDY PREDICTION MODEL

- Automated queries of:
  - Subsidy allocation resolutions
  - Subsidy application status
- Public policy: housing subsidies
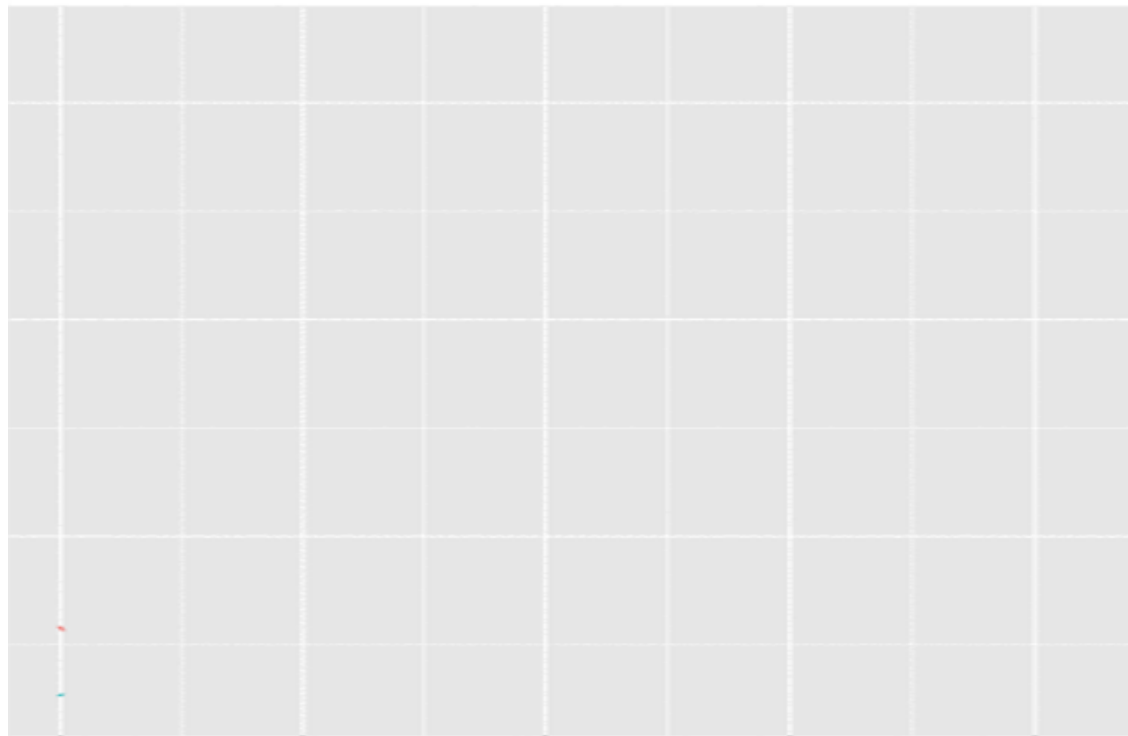
2

INTEREST RATE MODEL

- Interest Rate Prediction.
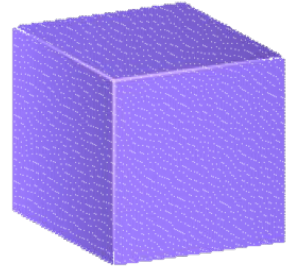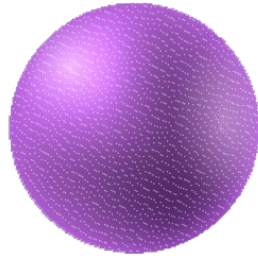
- Predictions of Macroeconomic Variables

3

FINANCIAL INSIGHT MODEL

- Information is extracted from the credit bureau

- We analyze a customer's debt capacity

- We assess whether the customer has financial literacy.

4

DATA'AI SUMMIT

FINALLY, WE CONSOLIDATE THE FOUR RISKS AND ASSIGN A RISK LEVEL TO EACH CUSTOMER.

THEN, WE CRAFTED SOLUTIONS ACCORDING TO THIS DIAGNOSIS.

IN BRIEF…

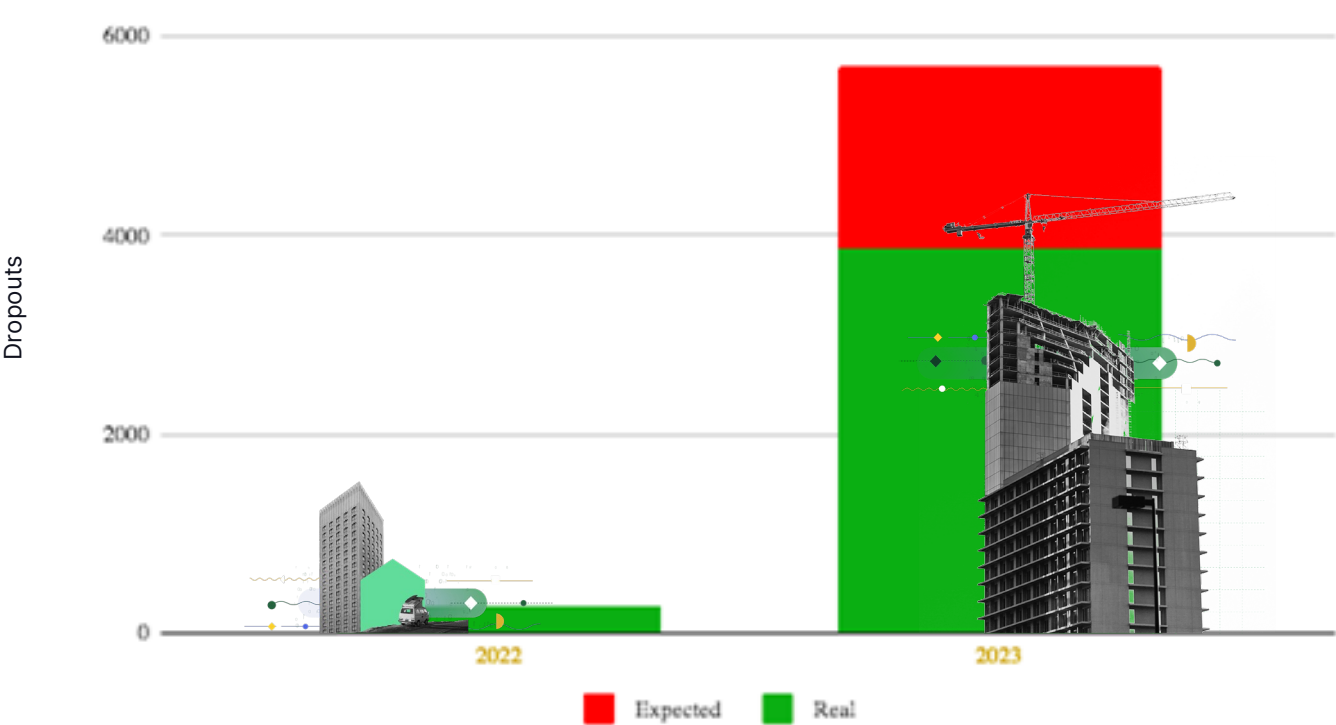**WE PREDICTED THE CRISIS**

WE WENT THROUGH ALL OF OUR CLIENTS' CASES

WE CREATED SOLUTIONS

WHAT WE FORECASTED VS. WHAT ACTUALLY HAPPENED

Dropouts (y-axis): 0, 2000, 4000, 6000

x-axis: 2022, 2023

Legend: ■ Expected ■ Real

DATA AI SUMMIT

LESSONS LEARNED

SIMPLICITY

We went from the simple to the complex.

INNOVATION

We have been encouraged to continue creating value with data.

SCALABILITY

How to integrate multiple risk spheres and automate?

VUCA

The rapid changes prompted us to generate various scenarios.

POWERFUL RESULTS: UNVEILING THE IMPACT OF RISK MASTER

WE HAVE HELPED MANY COLOMBIANS TO MAKE THEIR DREAM A REALITY!

In the last year, _____ individuals from the vulnerable population have achieved homeownership.

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- We have rescued more than 290 businesses at risk

- We have reduced the business withdrawal rate

- We have transitioned from a **reactive** to a **proactive** model.

WE HAVE CONTRIBUTED TO BUILDING A COUNTRY WHERE EVERYONE GETS TO OWN THEIR HOME

DATA AI SUMMIT

RISK MASTER HAS HELPED US

OVERCOME POPULATION BIASES

WHEN DOING BUSINESS

WHAT'S COMING FOR US…

Push forward:

Analyze customer treatments to identify the most effective ones and generate an autonomous recommendation model.

Integration:

We want to integrate the model with existing company models. This integration will enhance decision-making across the organization.

Engagement:

Strengthen client engagement strategies based on insights from RiskMaster. Use data to tailor communication and support efforts.

DATA SCIENCE AND AI CAN HELP PEOPLE GET A HOME

WHO'S BEHIND ALL OF THIS?

+40

years in the construction industry

THE BEST ONES IN THE INDUSTRY AT:
People's well-being + environmental care

 # GREEN AWARDS AND SOCIAL AWARDS!!!

CONSTRUCTORA BOLÍVAR

WE ARE LEADING THE WAY TOWARDS TRANSFORMATION AND CHARTING THE COURSE TO BECOME A DATA-DRIVEN COMPANY.

SCAN THE CODE
AND LEARN MORE
ABOUT US