Calice

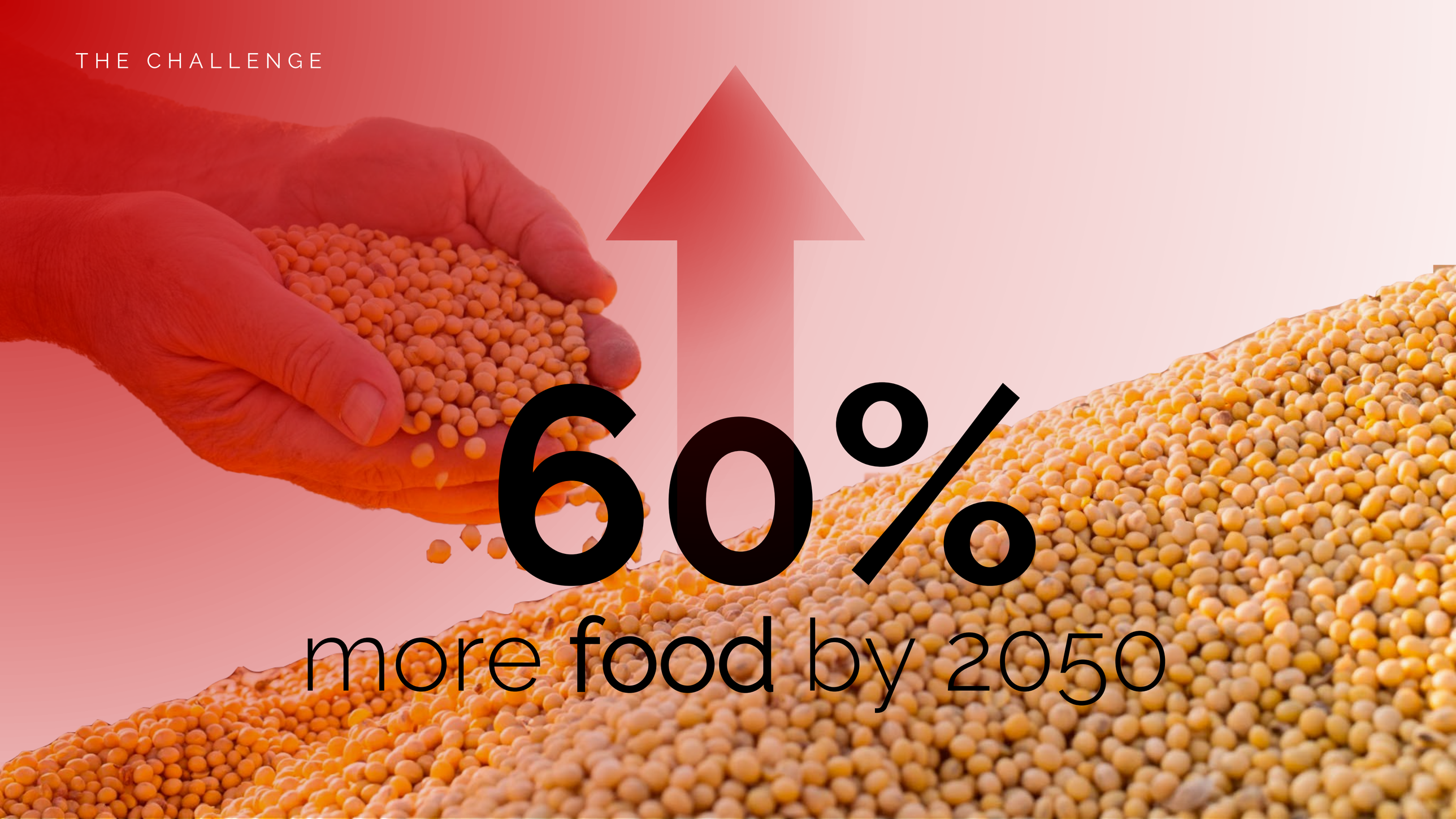
Seed Congress of the Americas

Promoting Seed Business in the Americas

CO-DESIGNING NATURE WITH **COMPUTATIONAL AGRICULTURE**

Esteban Hernando
CSO & Co-Founder

THE CHALLENGE

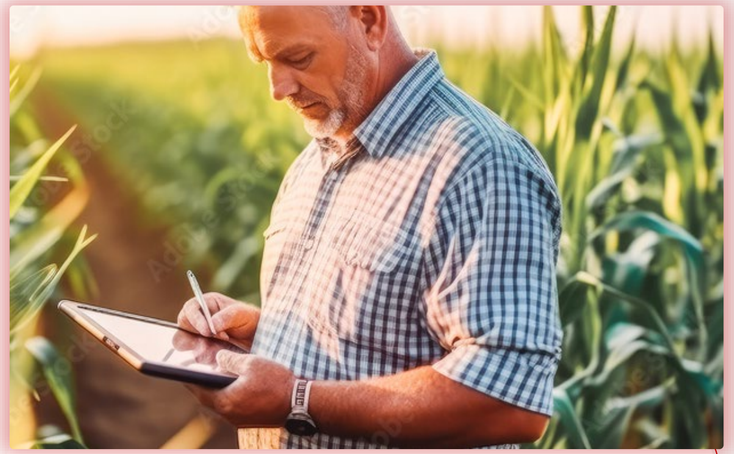


60%

more food by 2050

THE PROBLEM

CURRENT **PRODUCT DEVELOPMENT** TECHNOLOGIES ARE NOT UP TO THIS CHALLENGE



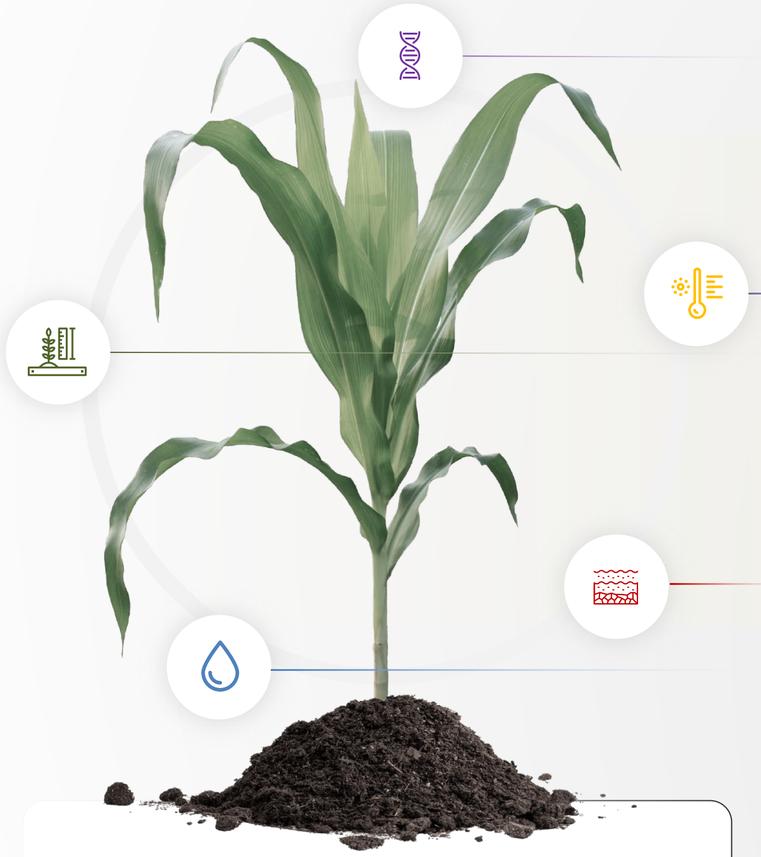
Time consuming and expensive

Large losses

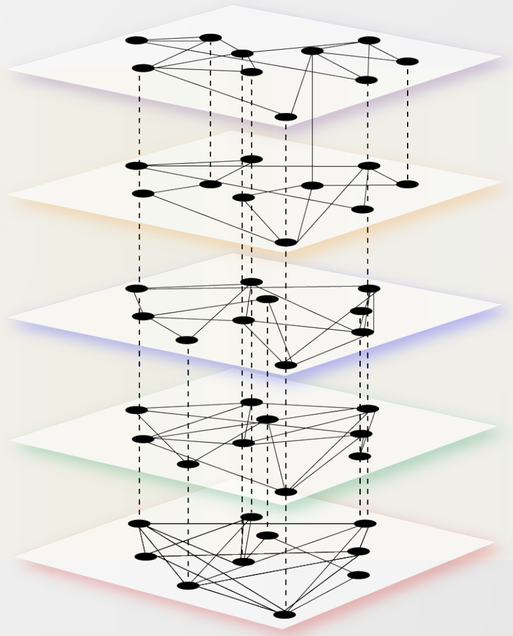
Inefficient use of data

SOLUTION

FROM **FIELD TRIALS** TO **COMPUTATIONAL TRIALS**



Crop at field conditioned by multiple factors



Layers of complex data describing a crop as a system

Computational AI model of a crop

PRODUCT

TRANSFORMING **DATA** INTO **NOVEL AGRI-FOOD PRODUCTS**

R & D DATA

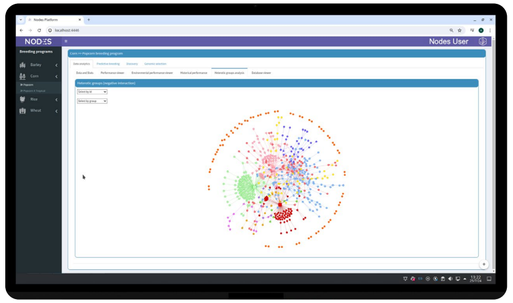
DATA AUGMENTATION

- Genomic
- Phenomics
- Climatological
- Soil
- Management
- Pedigree
- Historical data
- Quality
- Etc

NODES™ PLATFORM

COMPUTATIONAL FIELD TRIALS

VIRTUAL TRIALS



AI-BASED MODELS

- **COMPUTATIONAL** BREEDING
- **PRODUCT** PLACEMENT
- **DISEASE** INCIDENCE
- **TARGET** DISCOVERY

AGRI-FOOD PRODUCTS

NOVEL PRODUCTS

- Crop/ seed variety
- Biologicals

NODES™ BY CALICE

CROP AGNOSTIC PLATFORM

Development of heterotic groups

Prediction of optimal combinations

Enhancement of the genetic base potential

Optimizing Genotype-Environment Combinations for Improved Predictions

Predicting Genotype-Environment-Quality Interactions

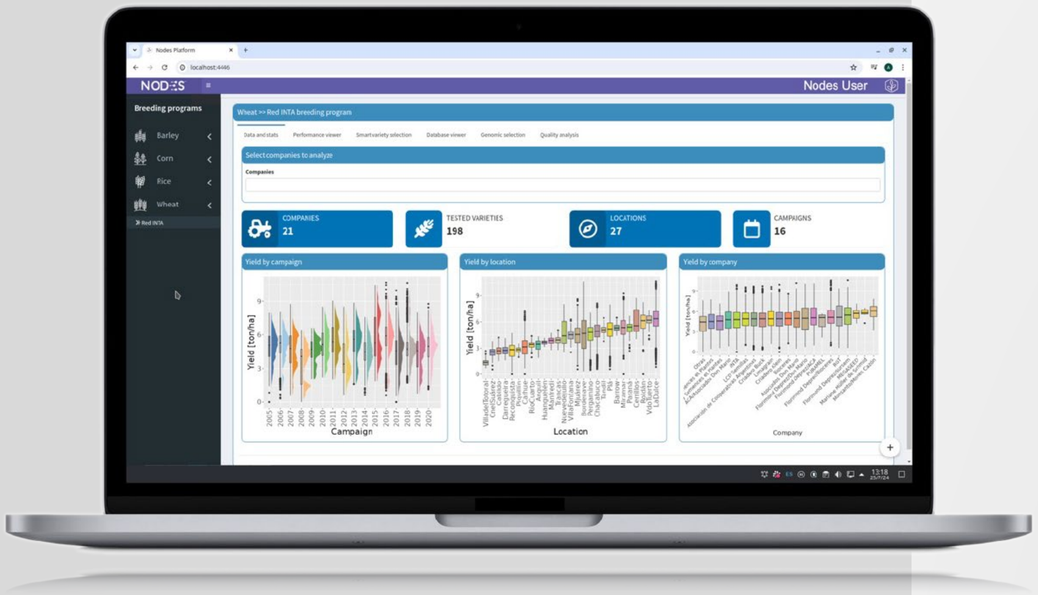
Introduction of New Varieties

Discovery of yield determining genes

BENEFITS

NODES™
BY CALICE

+80% PREDICTIVE ACCURACY



Reduce
time to market

Greater certainty
in product development

Improved
resource efficiency

Integrated
view of processes

TRUSTED BY

+20 ON-GOING TRIALS
WITH AGRI-FOOD COMPAIES

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THE NEXT REVOLUTION IS COMPUTATIONAL AGRICULTURE

THANKS!!!