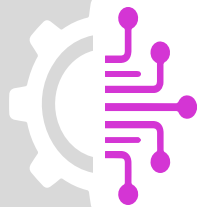


A3

## SCIENCE and RESEARCH



**A:**CUBE



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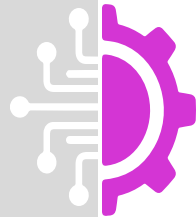
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## WHO WE ARE



ACUBE ( $A^3$ ) IS AN AI COMPANY THAT DEVELOPS MATHEMATICALLY BASED AND RELIABLE MACHINE LEARNING SYSTEMS.

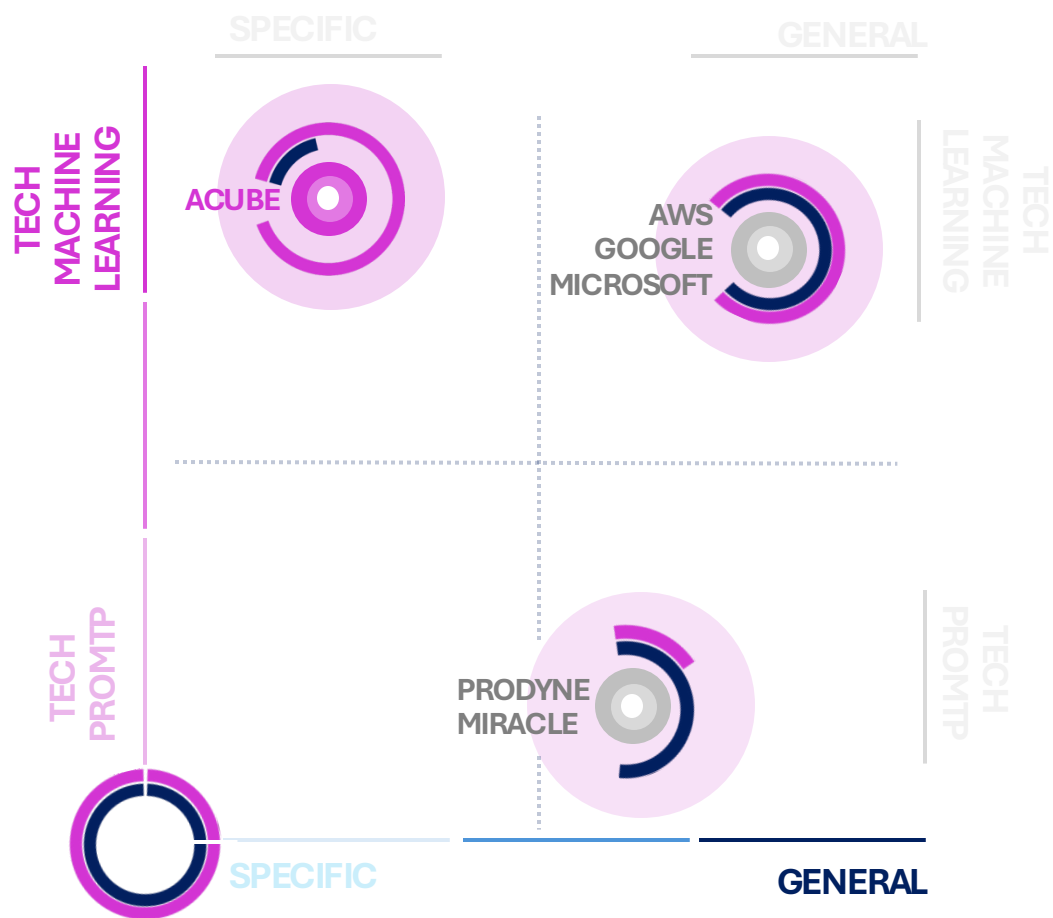
ACUBE ( $A^3$ ) IS ABLE TO DESIGN AND DEVELOP **NEW ARCHITECTURES** IN THE FIELD OF **MACHINE LEARNING** FOR SCIENCE AND RESEARCH PURPOSES BY CONTROLLING AND GOVERNING THE MATHEMATICAL LAYER.

ACUBE ( $A^3$ ) TURN FRONTIER METHODS INTO VALIDATED PROTOTYPES AND READY TO MARKET SOLUTIONS

ACUBE ( $A^3$ ) HAS TEAMS ACROSS ALGORITHMIC DESIGN, APPLIED ML, MLOPS, AND EVALUATION/ASSURANCE



# «WHERE» WE ARE

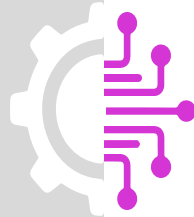


**CREATORS:** COMPANIES THAT DESIGN AND DEVELOP PROPRIETARY ALGORITHMS AND CORE TECHNOLOGIES

**SYSTEM INTEGRATORS:** COMPANIES THAT ASSEMBLE AND COMBINE EXISTING TECHNOLOGIES INTO COMPLETE SOLUTIONS

# TEAM AND COMPETENCE AREAS

WHO YOU'LL  
WORK WITH



## MAIN COMPETENCE AREAS

### FOUNDATIONAL & THEORY

ML THEORIST / STATISTICAL LEARNING  
OPTIMIZATION RESEARCHER  
PROBABILISTIC ML / BAYESIAN  
GEOMETRIC & TOPOLOGICAL ML  
CAUSAL ML / COUNTERFACTUALS

### MODELS & METHODS

REPRESENTATION & SELF-SUPERVISED LEARNING  
FOUNDATION-MODEL RESEARCHER (FM/LMM)  
REINFORCEMENT LEARNING / MULTI-AGENT  
NEURO-SYMBOLIC / PROGRAM SYNTHESIS  
MECHANISTIC INTERPRETABILITY

## MAIN COMPETENCE AREAS

**SYSTEMS, EFFICIENCY & DEPLOYMENT**  
ML SYSTEMS / COMPILERS - EFFICIENT ML  
MLOPS RESEARCH ENGINEER

**TRUST, SAFETY & GOVERNANCE**  
ROBUSTNESS & RELIABILITY  
FAIRNESS, ETHICS & POLICY, PRIVACY &  
SECURITY

SAFETY & ALIGNMENT, VERIFICATION & FORMAL  
METHODS

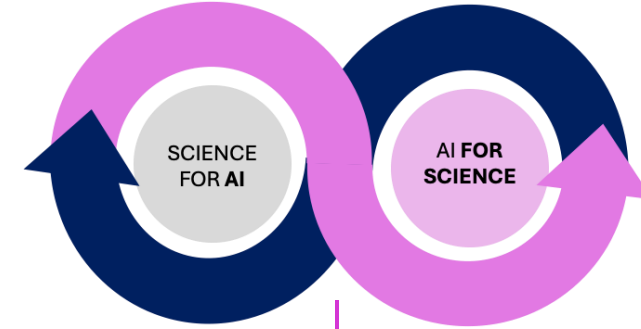
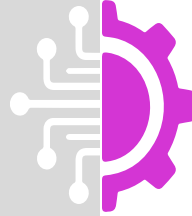
**DATA, EVALUATION & INTERACTION**  
DATA-CENTRIC ML - BENCHMARKING &  
EVALUATION SCIENCE  
HUMAN-AI INTERACTION / XAI

## TEAM

ACUBE HAS A HIGHLY QUALIFIED TEAM  
OF **MATHEMATICAL MODELLERS,**  
**SOFTWARE ENGINEERS, DATA**  
**SCIENTISTS, SOFTWARE ARCHITECTS,**  
DEVOPS ARCHITECTS, AND FULL-STACK  
ENGINEERS.

# WHY ACUBE?

## UNLEASHING THE POTENTIAL OF SCIENCE



COLLABORATING WITH ACUBE  
MEANS PARTNERING WITH A TEAM  
THAT **TURNS CUTTING-EDGE  
SCIENCE INTO RELIABLE VALUE.**

IN A WORLD WHERE ARTIFICIAL  
INTELLIGENCE IS REDEFINING  
HOW ORGANIZATIONS OPERATE,  
THE DIFFERENCE IS NOT JUST  
TECHNOLOGY — IT'S THE PEOPLE  
WHO DESIGN IT, INTEGRATE IT, AND  
USE IT RESPONSIBLY.  
WE PROVIDE USEFUL, SAFE, AND  
SUSTAINABLE **ARTIFICIAL  
INTELLIGENCE** THAT CREATES  
REAL IMPACT IN TERMS OF  
**SCIENTIFIC DISCOVERY.**  
WE **APPLY SCIENCE** THROUGH  
CONTINUOUS RESEARCH IN  
**ARTIFICIAL INTELLIGENCE**

**ALGORITHMIC DEPTH** (MATHEMATICAL LAYER)  
AND **ENGINEERING AT SCALE**, FROM PROOFS  
TO ROBUST SYSTEMS

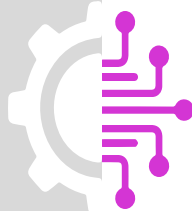
**EVALUATION FIRST:** CALIBRATION, OOD,  
FAIRNESS, SAFETY-BUILT IN FROM DAY ONE

**INTEROPERABILITY** BY DESIGN,  
SCHEMAS/ONTOLOGIES, APIS, STANDARDS  
ALIGNMENT

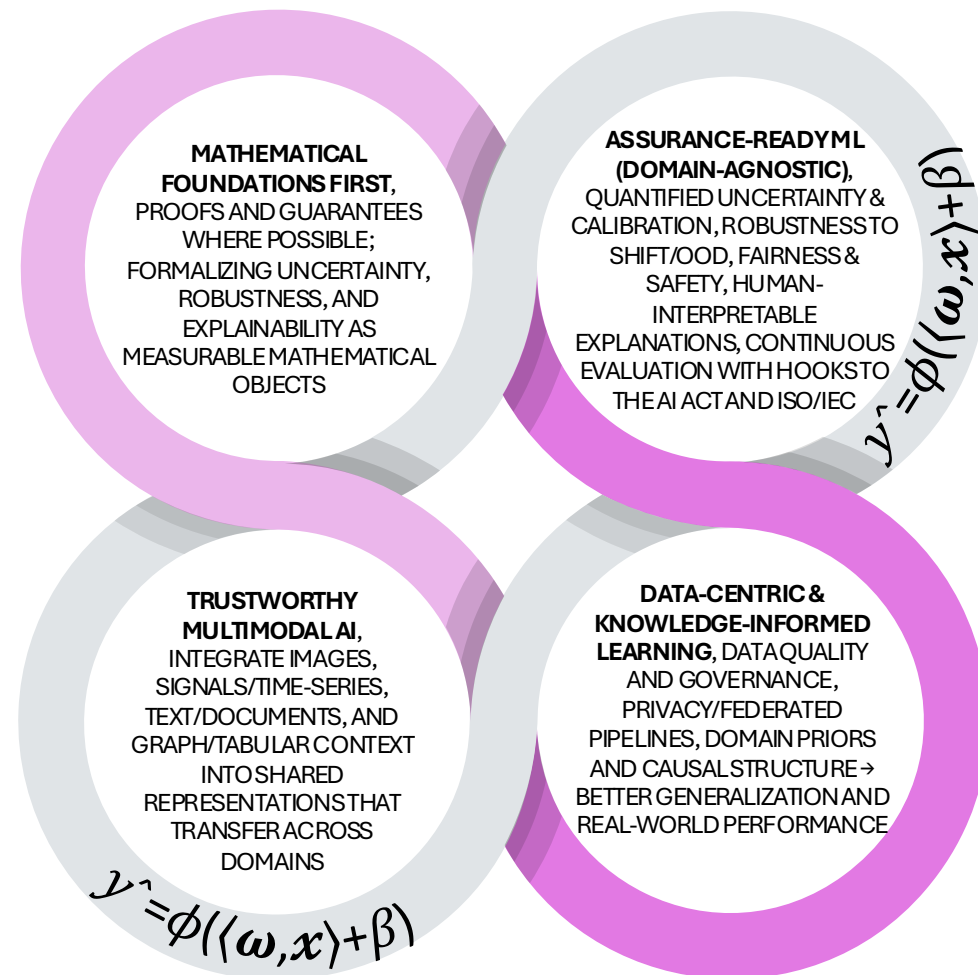
**OPEN SCIENCE MINDSET**, REPRODUCIBLE  
CODE, MODEL/DATA CARDS AND LEAN  
COLLABORATION

# A3 RESEARCH?

## VISION & PILLARS



**WE BELIEVE IN DOING SCIENTIFIC RESEARCH THAT UNDERPINS MACHINE LEARNING:** THEORIES OF UNCERTAINTY AND CALIBRATION, GEOMETRY/OPTIMAL TRANSPORT, AND GRAPHICAL/CAUSAL STRUCTURES. MODELS THAT ARE PROVABLE, RELIABLE, AND GENERALIZABLE



# CROSS-DOMAIN SCIENTIFIC

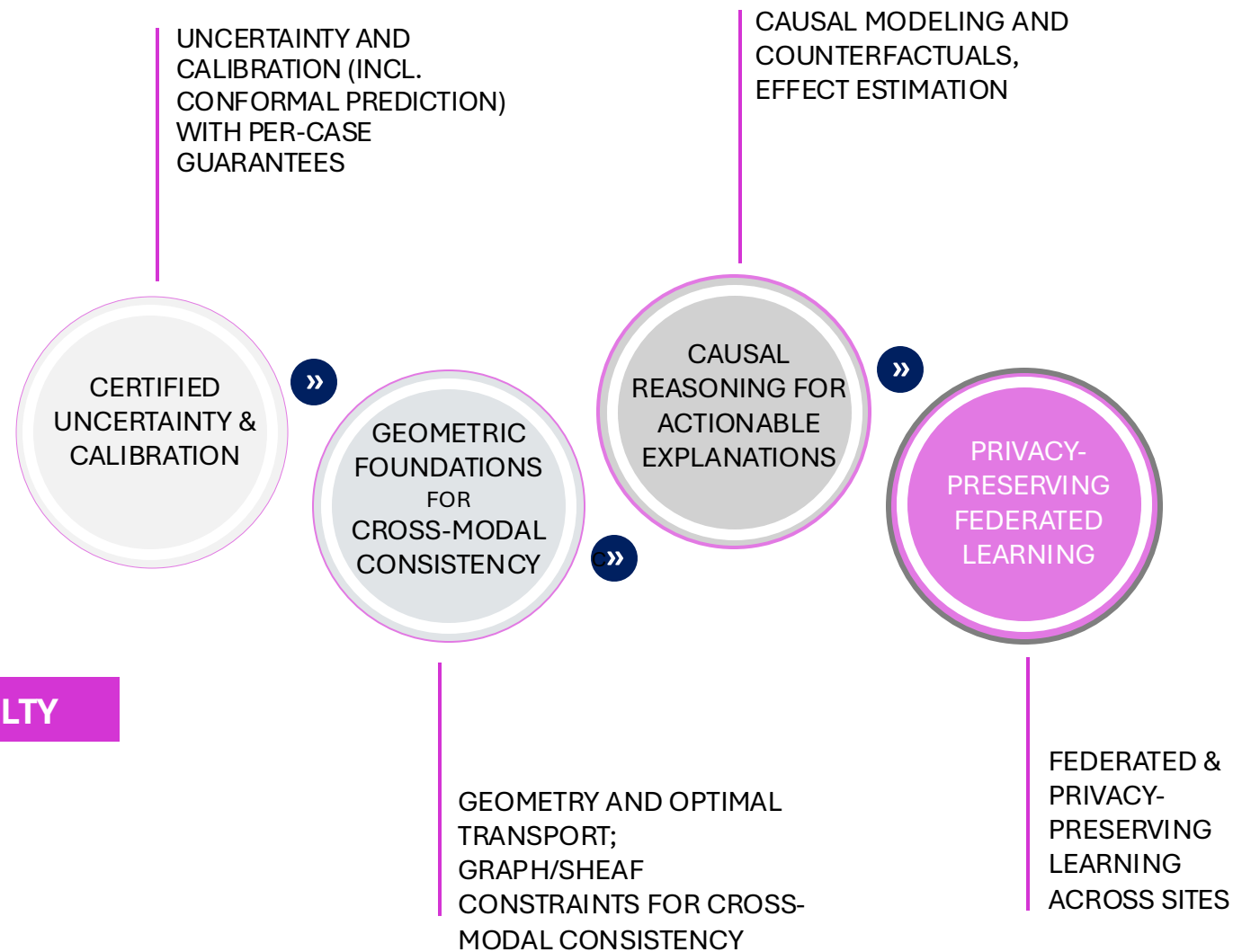
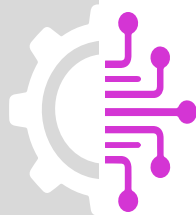
## CAPABILITIES





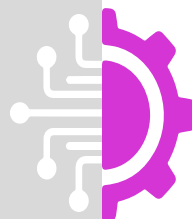
## A3 METHODS

& NOVELTY



# DATA INFRASTRUCTURE

## AND SECURITY



WE OPERATE ON A **DOMAIN-AGNOSTIC, COMPLIANT, AND SCALABLE BACKBONE** THAT TURNS RESEARCH INTO **AUDITABLE, PRODUCTION-READY SYSTEMS**—COVERING COMPUTE, DATA GOVERNANCE, AND END-TO-END MLOPS

CLOUD/HPC-  
READY TRAINING

FEDERATED  
ORCHESTRATION WITH  
AUDIT TRAILS

DATA  
GOVERNANCE

DMPS, LINEAGE,  
ACCESS POLICIES;  
PSEUDONYMIZATION  
PIPELINES

MLOPS

VERSIONED  
DATASETS/MODELS,  
CONTINUOUS EVALUATION,  
DRIFT/BIAS MONITORING



## BENEFITS

### ADVANTAGES



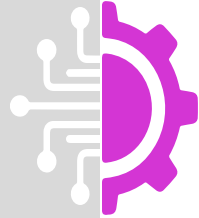
- STRONGER HORIZON PROPOSALS**  
SHARPER ALIGNMENT TO EU PRIORITIES, STANDARDS, AND IMPACT
- RESEARCH YOU CAN TRUST**  
METHODS WITH MEASURABLE RELIABILITY (CALIBRATION, ROBUSTNESS, FAIRNESS)
- FASTER PROOF CYCLES**  
REUSABLE PIPELINES PLUS CLOUD/HPC AND FEDERATED SETUPS TO COMPRESS TIME FROM IDEA TO POP
- ASSURANCE & COMPLIANCE BY DESIGN**  
RISK MANAGEMENT  
ALIGNED WITH AI ACT/ISO/IEC, FULL AUDIT TRAILS AND GOVERNANCE
- REPRODUCIBILITY & OPEN SCIENCE**  
BENCHMARKS, MODEL/DATA/RISK CARDS, AND OSS TOOLKITS FOR TRANSPARENT, VERIFIABLE RESULTS
- SEAMLESS INTEGRATION & INTEROPERABILITY**  
STANDARDS-FIRST (SCHEMAS/APIS), PRODUCTION-GRADE MLOPS, AND CLEAN HAND-OFF TO PARTNERS
- PATH TO IMPACT & EXPLOITATION**  
IPR STRATEGY, CONTRIBUTIONS TO STANDARDS, AND A CLEAR ROUTE TO TRANSITION/TECHNOLOGY TRANSFER



## SCIENTIFIC

### PARTNERS

UNIVERSITY OF PADOVA – FACULTY OF MEDICINE AND SURGERY (IT)  
STEMWISE DOO ZA USLUGE (HR)  
FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA (IT)  
EUC INOVACAO PORTUGAL UNIPESAOAL LDA (PT)  
MINISTRY OF HEALTH OF THE REPUBLIC OF TURKEY (TK)  
ARISTOTELIO PANEPISTIMIO THESSALONIKIS (GR)  
UNIVERSITY MEDICAL CENTER MARIBOR (SL)  
NATIONAL TECHNICAL UNIVERSITY OF UKRAINE IGOR SIKO (UA)  
UZHGORODSKYI NACIONALNYI UNIVERSITET (UA)  
ALBANIAN INSTITUTE OF TECHNOLOGY (AL)  
FUNDACIO INSTITUT D'INVESTIGACIO BIOMEDICA DE GIRONA (SP)  
STATE INSTITUTION RESEARCH CENTER FOR RADIATION MUA (UA)  
STICHTING VU (NL)  
COÖPERATIE 4LIFESUPPORT EUROPA U.A. (NL)  
ALPHA CONSULTANTS S.R.L. (IT)  
EXEVA S.R.L. (IT)  
SCARECROW INTELLIGENCE LTD. (UK)  
INSTITUTE OF PLANT PROTECTION OF NATIONAL ACADEMY OF  
AGRARIAN SCIENCES OF UKRAINE (UA)  
BULDURU TEHNIKUMS SIA (LT)  
UBOTICA TECHNOLOGIES LIMITED (IR)  
PERIOPSIS LTD (CY)  
NUREDA TECHNOLOGIES LIMITED (IR)  
BURSA ULUDAG UNIVERSITESI (TK)  
HELLENIC MEDITERRANEAN UNIVERSITY (GR)  
METAMETA RESEARCH BV (NL)



## CONTACTS

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