



VOSTA





About VOSTA

Transforming Industrial Challenges into Value-Creating Technologies

VOSTA is a specialized technology development, industrial innovation, and applied engineering company focused on the oil, gas, petrochemical, and energy sectors.

Through a problem-driven approach, we identify real industrial challenges and transform them into engineering solutions, innovative technologies, and scalable industrial applications.

From problem analysis and engineering studies to technology development, prototyping, industrial validation, and commercialization, VOSTA works alongside industry as a technology partner, guiding the journey from knowledge to value.

Today, VOSTA combines engineering expertise, technological innovation, intellectual property, and industrial experience to develop solutions that enhance productivity, reduce operational costs, and improve long-term industrial performance.

At VOSTA, technology is not merely a scientific achievement; it is a practical tool for solving real industr

The VOSTA Journey



2007

The Beginning

Launching research activities focused on solving real industrial challenges



2010

Gold Medal–Switzerland

Geneva International Invention Competition 2010



2010

Gold Prize–South Korea

Seoul International Invention Competition (SIIC)



2011

Establishment of VOSTA

Founded with a mission to drive technology development, industrial innovation, and practical engineering solutions



2011–2020

Technology & Industrial Project Development

Expanding activities, developing innovative technologies, and delivering industrial projects across multiple sectors



Today

Looking Ahead

Advancing technologies, expanding industrial partnerships, and pursuing opportunities in global markets

DIPLÔME

**Inventions
Geneva**

**SALON
INTERNATIONAL
DES INVENTIONS
GENÈVE**

Après examen, le Jury International a décidé

de remettre à: Hossein HAGHIRI

pour l'invention: Système de sécurité pour les passagers des sièges avant de véhicules



MEDAILLE D'OR
GOLD MEDAL
GOLD MEDAL

Genève, le 23 avril 2010

Le Président du Jury: David Tsig

Le Président du Salon: Jean-Luc Vincent

KOREA INVENTION PROMOTION ASSOCIATION



SIIF 2010 Seoul
International
Invention Fair 2010

Gold Prize

presented to

HOSSEIN HAGHIRI

from IRAN

in recognition of excellent and creative efforts to invent

**DESIGNING AND MAKING FLEXIBLE WRENCH
FOR OPENING SCREWS IMPOSSIBLE TO BE
OPENED BY HAND**

exhibited at the

Seoul International Invention Fair 2010

organized by the

Korea Invention Promotion Association

in Seoul, KORRA

December 2 - 5, 2010



Choi Jong-hyub

President
Korea Invention Promotion Association



THE STORY BEHIND VOSTA

At VOSTA, every industrial challenge can become a technology, an invention, and an opportunity to create value.

VOSTA is the result of years of research, innovation, and industrial experience—a journey that began with a simple question:

How can real industrial challenges be transformed into practical technological solutions?

Driven by continuous learning, innovation, and a belief in the power of technology to create value, this journey has led to the development of advanced technologies, patented inventions, and collaborations across multiple industries.

2 Medals



**GOLD MEDAL
SWITZERLAND
2010**



**GOLD MEDAL
SOUTH KOREA
2010**

Why VOSTA?

VOSTA is more than an engineering service provider; we are a technology partner that guides complex industrial challenges from analysis and diagnosis to technology development and industrial implementation.

Our strength lies in combining engineering expertise, industrial experience, technology development, and intellectual property protection to deliver practical, sustainable, and scalable solutions.



01



Root Cause Analysis

Identifying the real causes of industrial challenges beyond visible symptoms

02



Systems Thinking

Evaluating equipment, processes, and operating conditions as an integrated system

03



Tailored Solutions

Designing solutions aligned with the specific needs of each industrial operation

04



From Analysis to Execution

Transforming engineering insights into practical and deployable technologies

05



Productivity Enhancement

Reducing operational costs, minimizing downtime, and improving performance

06



Technology Development

Converting industrial challenges into innovation and technology opportunities

07

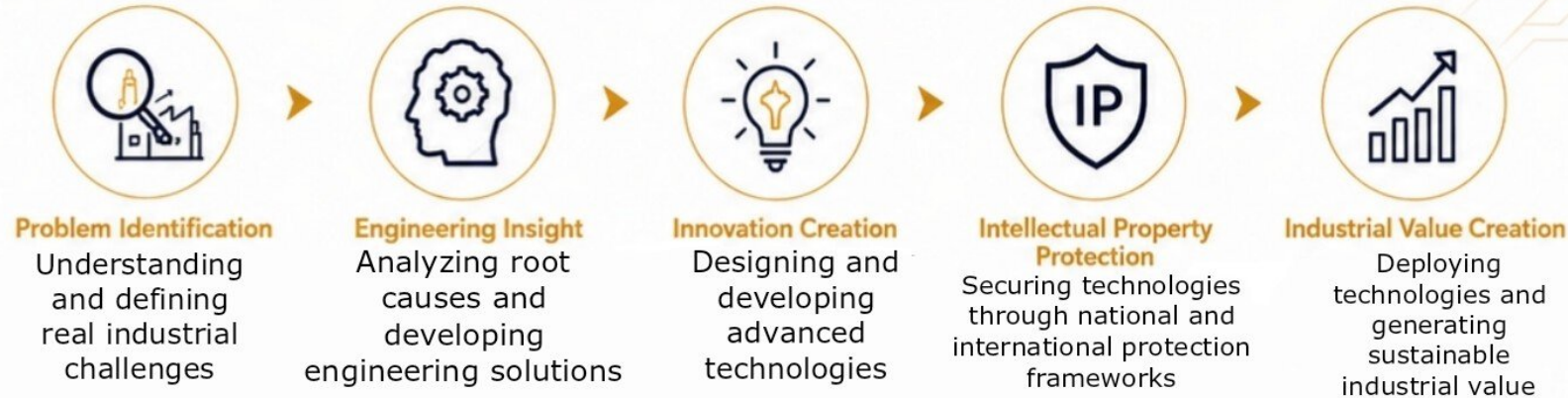


Intellectual Property Protection

Securing and protecting technologies at national and international levels

Rather than offering generic solutions, we design a dedicated pathway for every industrial challenge.

• Innovation, Patents & Intellectual Property •



At VOSTA, innovation is the driving force behind technology development.

We combine engineering expertise, research, and creativity to transform industrial challenges into solutions that are both protectable and commercially valuable.

For us, intellectual property is more than legal protection; it is a strategic asset that enables sustainable value creation, global market expansion, and long-term technology transfer.



• Why Intellectual Property Matters •



At VOSTA, innovation is a strategic journey—one that begins with understanding a challenge and evolves into lasting industrial value through technology development and intellectual property protection.



+57
Patents &
Intellectual Assets



100+
Technology
Projects



15+
Years of Research &
Innovation



4
Target
Industries

• Our Areas of Expertise •



Industrial
Process
Equipment



Heat
Transfer
Technologies



Oil & Gas
Pipelines



Corrosion &
Fouling
Control



Smart
Equipment
Monitoring



Predictive
Maintenance



Energy
Optimization



Industrial
Technology
Development

VOSTA at a Glance

VOSTA is a specialized technology development and applied engineering company focused on the oil, gas, petrochemical, and energy sectors. We transform industrial challenges into practical engineering solutions and deployable technologies.

• VOSTA Operating Model •



Industrial
Challenge



Engineering
Analysis



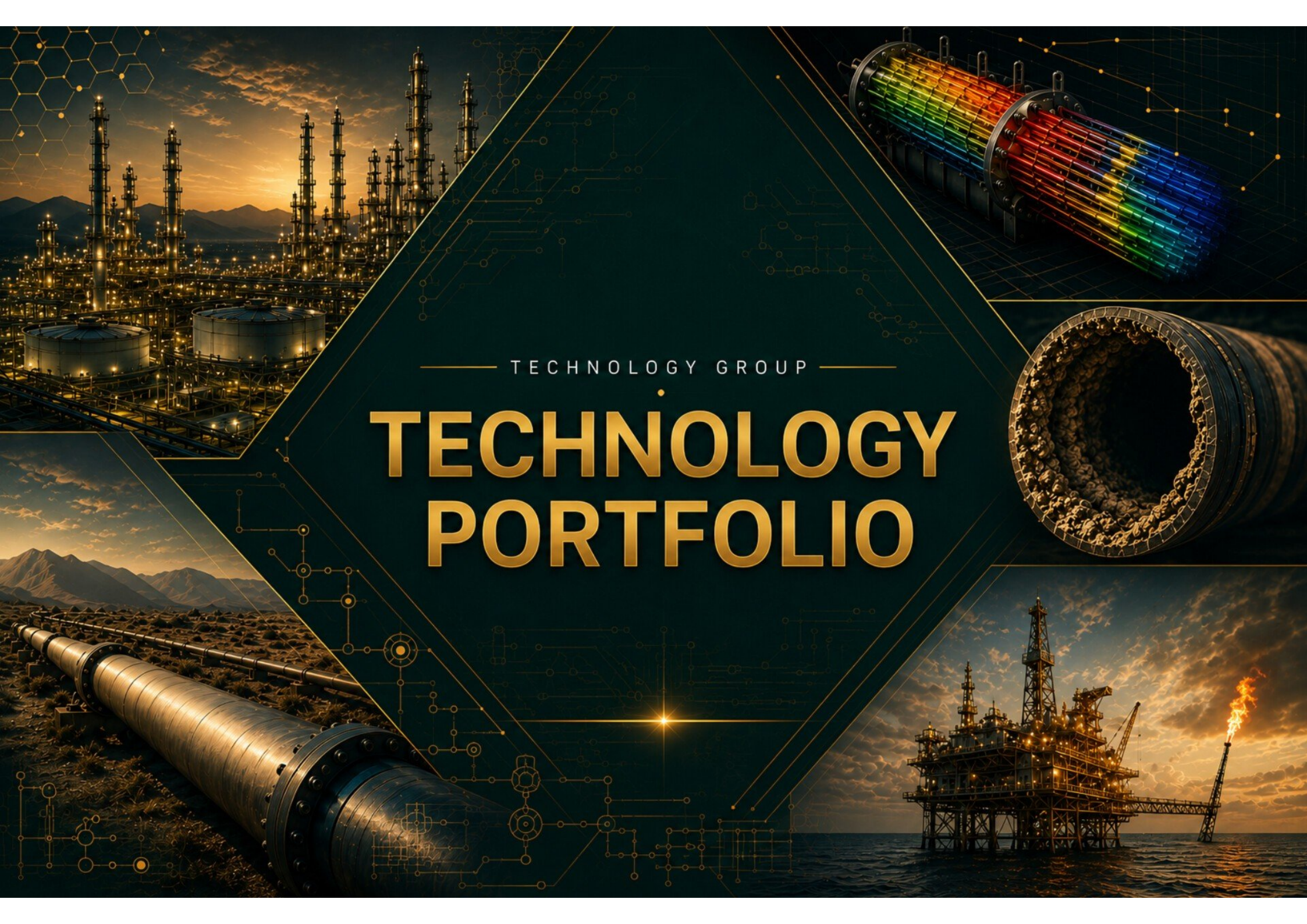
Technology
Development



Prototype &
Validation



Industrial
Deployment



TECHNOLOGY GROUP

TECHNOLOGY PORTFOLIO



Smart Monitoring & Early Warning System for Fouling

Industrial Challenge

Fouling in heat exchangers and process equipment reduces heat transfer efficiency, increases energy consumption and pressure drop, limits production capacity, and raises maintenance costs across oil, gas, petrochemical, refinery, and power industries.



Vosta Solution

Vosta's smart monitoring system detects early-stage fouling by continuously analyzing equipment performance changes. It provides timely alerts, enabling proactive intervention and preventing further fouling development.



Key Benefits

- Improved heat transfer efficiency & reduced energy consumption
- Lower maintenance costs and unplanned shutdown risks
- Optimized predictive maintenance planning
- Extended equipment lifespan



INTERNATIONALLY PROTECTED TECHNOLOGY
WIPO Registered Patent | PCT



Next-Generation Heat Exchangers

Industrial Challenge

Heat exchangers in oil, gas, petrochemical, and power industries suffer from fouling, high pressure drop, and reduced heat transfer efficiency, leading to increased energy consumption, operating costs, and equipment degradation.



Vosta Solution

Vosta's next-generation heat exchangers feature an innovative helical flow structure that optimizes fluid pathways, enhances heat transfer performance, reduces dead zones, and enables efficient system operation.



Key Benefits

- Up to 35% improvement in heat transfer efficiency
- Reduced energy consumption and operational costs
- Lower pressure drop and improved system stability
- Reduced fouling and extended equipment lifespan
- Less frequent cleaning and maintenance shutdowns
- Adaptable design for diverse industrial applications





VOSTA High-Pressure Pipeline Magnetic Filter



Industrial Challenge

Magnetic particles and solid contaminants in process fluids can cause wear, corrosion, blockage, and premature equipment failure in high-pressure pipelines, leading to increased maintenance costs, operational inefficiencies, and unplanned shutdowns.



VOSTA Solution

The VOSTA High-Pressure Magnetic Filter uses high-strength magnetic elements to efficiently remove magnetic particles and contaminants from fluid streams, ensuring reliable performance in demanding high-pressure environments.



Key Benefits

- Efficient contaminant and magnetic particle removal
- Protection of critical equipment and extended service life
- Reduced downtime and maintenance costs
- Reliable operation under high-pressure conditions
- Compact, durable, and low-maintenance design
- Easy installation and low-maintenance operation



INTERNATIONALLY PROTECTED TECHNOLOGY

WIPO Registered Patent. | PCT



Smart Leak Detection and Control Technology for Pipelines and Industrial Equipment



Industrial Challenge

Leakage in pipelines and process equipment is one of the major causes of economic losses, safety hazards, and environmental pollution. Early detection of leaks, particularly in oil, gas, and petrochemical industries, plays a critical role in reducing risks and preventing extensive damages.



Vosta Solution

Vosta's smart technology provides fast, accurate, and intelligent detection of fluid leaks in pipelines and process equipment. It enables early-stage leak identification, enhancing reliability, safety, and operational stability of industrial units.



Key Benefits

- Fast and accurate leak detection at early stages
- Reduction of economic losses and maintenance costs
- Minimization of material loss and environmental pollution
- Improved industrial safety and reduced operational risks
- Applicable to various pipeline and process systems
- Seamless integration with existing monitoring and control systems



INTERNATIONALLY PROTECTED TECHNOLOGY
WIPO Registered Patent. | PCT



Corrosion Mitigation & Asset Life Extension

Industrial Challenge



Corrosion is a major cause of equipment degradation in oil, gas, petrochemical, and process industries, leading to higher maintenance costs, reduced reliability, safety risks, and unplanned shutdowns.

Vosta Solution



Vosta develops advanced corrosion mitigation solutions through specialized studies, optimized material selection, protective technologies, process control, and continuous corrosion monitoring to extend asset life and improve reliability.

Key Benefits



- Reduced corrosion rates and extended equipment lifespan
- Lower maintenance and repair costs
- Reduced unplanned shutdowns and improved reliability
- Enhanced process safety and operational efficiency
- Improved asset integrity and risk reduction



INTERNATIONALLY PROTECTED TECHNOLOGY
WIPO Registered Patent. | PCT

VOSTA COLLABORATION MODEL

VOSTA Collaboration Principles



Focus on
Results



Shared
Approach



Trust &
Reliability



Sustainable
Innovation & Growth



Global
Value Creation



VOSTA acts as a Technology Partner throughout the entire innovation lifecycle — from industrial challenge identification to technology deployment and commercialization.

VOSTA Collaboration Commitments



Protect
Confidential
Information



Ensure Quality &
Global Standards



Collaborate & Share
Knowledge



Deliver on Time
& Commitments



Create Sustainable
Value & Impact



Enable Global
Impact

01

Problem Identification & Analysis

Review industrial challenges, market trends, and technology opportunities.



02

Technical & Engineering Analysis

Analyze challenge using engineering tools and methodologies to evaluate feasibility and performance.



03

Solution Design

Develop tailored solutions aligned with operational and project requirements.



04

Technology Development

Design conceptual and detailed engineering, and protect intellectual property.



05

Testing & Validation

Evaluate performance under real conditions with industrial-scale testing.



06

Technology Transfer

Transfer proven technology and support implementation for long-term value creation.



THE MINDS BEHIND (VOSTA)

THE MINDS BEHIND (VOSTA)



Hossein Haghiri

Founder & Chief Executive Officer (CEO)

 Strategic Leadership & Technology Development

 Innovation & Intellectual Property Management

 Industrial Challenge Analysis & Solution Development



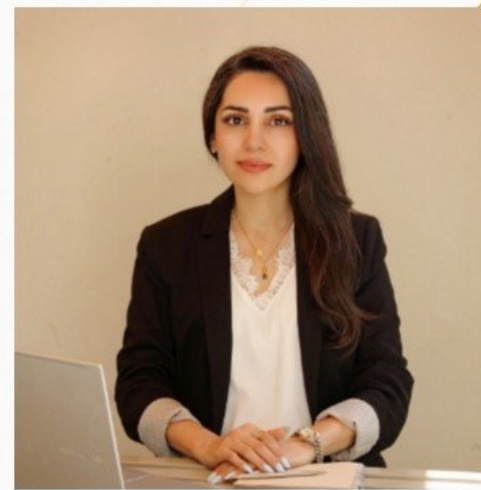
Hossein Borzou

Co-Founder & Director of Technology Development

 Industrial Technology Development

 Research & Development Project Management

 Innovation & Product Development Leadership



Mozhddeh Bagheri

Chief Operating Officer (COO)

 Operations & Business Development Management

 International Relations & Market Development

 Commercialization & Technology Transfer





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