# Expert Opinion Letter (Confidential)

Analysis of Positional Requirements

Evaluator: **Mahmoud A. Abdallah, Ph.D., PE**

Evaluator Info: Professor, Chairman, Manufacturing Engineering Department

# AREAS OF EXPERTISE

* Professor of Manufacturing Engineering since 1986
* Managed the development of a successful ABET self-study four times
* Expert in medical image processing
* Developed and received grants for research in Robotics
* Licensed Professional Engineer
* Received many awards and fellowships

# EMPLOYMENT

**Academic Experience**

* + **MFE Program Coordinator,** 2019-Current
  + **Chairman**, Manufacturing Engineering Department, 2000-2008
  + **Professor**, Manufacturing Engineering, Central State University, Wilberforce, Ohio. 1986
  + **Instructor**, Computer and Electronics Department, Ain Shams University, Egypt, 1977-80

# Non-Academic experience

* + **Radiology Computer Specialist**, Henry Ford Hospital Detroit, Michigan, 1985-1986
  + I**mage Analyst,** Medical College of Ohio, Toledo, Ohio, 1981-1984

# Certifications:

* + Licensed Professional Engineer P.E. (State of Ohio Registration No. E-56783).

# EDUCATION

**Doctor of Philosophy**, Electrical Engineering/Systems Theory, and Engineering, The University of Toledo, Ohio 1986

**Master of Science**, Electrical Engineering, The University of Rochester, Rochester, NY 1981 **Master of Science**, Computers, and Electronics, Ain Shams University, Cairo, Egypt 1980 **Bachelor of Science**, Electrical Engineering, Communication/Electronics, Ain Shams University, Cairo, Egypt, 1974

# Current membership in professional organizations

* + Member of the IEEE Computer Society
  + Member of the IEEE Control Systems Society
  + Member of the American Association for Artificial Intelligence (AAAI)
  + Member of the American Association of University Professors (AAUP)
  + Member of Sigma Xi, Pi Mu Epsilon, and Eta Kappa Nu

# Honors and awards

* + Received Excellence Award in Research, Central State University. 2001
  + AFRL/SNR, WPAFB, Research at the Sensor Directorate, Radar Branch, Summer 2001
  + AFRL/SNR, WPAFB, Research at the Sensor Directorate, Radar Branch, Summer 2000
  + U.S. NAVY-ASEE Summer Faculty Research Program, Pax River Station, MD., 1999
  + U.S. NAVY-ASEE Summer Faculty Research Program, Pax River Station, MD., 1998
  + U.S. NAVY-ASEE Summer Faculty Research Program, Pax River Station, MD., 1997
  + Best Ph.D. research award, U.T. Sigma Xi, 1984
  + Research Assistantship from the University of Toledo (U.T.), Ohio 1981
  + Scholarship from the University of Rochester, NY 1980
  + Scholarship from the University of Ottawa, Canada 1980

# Service activities

* + **MFE Program Coordinator,** 2019-Current
  + **Chairman**, Manufacturing Engineering Department, 2000-2008
  + **LEADER/ADVANCE,** CSU representative, and internal grants award committee chair.

**Publications:** Most recent

* + Gamal Geweid and Mahmoud A. Abdallah, "A Novel Approach for Breast Cancer Investigation and Recognition Using M-Level Set-Based Optimization Functions, IEEE Access, December 2019, V7 ISSUE 1, Pages 136343-136357.
  + Gamal Geweid and Mahmoud A. Abdallah, “A New Automatic Identification Method of Heart Failure Using Improved Support Vector Machine Based on Duality Optimization Technique," IEEE Access, December 2019, V7 ISSUE 1, Pages 149595-149611.
  + Gamal Geweid and Mahmoud A. Abdallah, "Improved Malignant Diagnosis Using Fuzzy

C-Means Based on Histopathological of PET-CT Lung Images," ICNT 2020 April 14-16, 2020, Paper ID: E2003, Cairo, Egypt.

* + Gamal Geweid, Mahmoud A. Abdallah and Ayman Hassan, " Early Detection of Hepatocellular Carcinoma in PET/CT Images using Improved K-Means Techniques Based on Pixel Density," [AIRC '19: Proceedings of the 2019 International Conference on Artificial](https://dl.acm.org/doi/proceedings/10.1145/3388218) [Intelligence, Robotics, and Control](https://dl.acm.org/doi/proceedings/10.1145/3388218) December 2019, pp 68–74, <https://doi.org/10.1145/3388218.3388519>

# Professional Development

* + Lincoln Electric Welding Training Simulator, 2 hrs. Spring 2020
  + Fanuc CNC Controller Simulator Trainer, 2 hrs. Spring 2020
  + Hexagon Metrology, Portable, and Foldable Coordinate Measuring Machine (CMM) Demonstration, Jenkins Hall, Fall 2019
  + Faro Portable and Foldable Coordinate Measuring Machine (CMM) Demonstration, Jenkins Hall, Spring 2020
  + Keyence of America Coordinate Measuring Machine (CMM) Demonstration, Jenkins Hall, Spring 2020

# Department of Homeland Security

Citizenship and Immigration Services Analysis of Positional Requirements

Name Mariana Gonçalves da Cruz Bastos

Country Brazil

Degree Degree in Production Engineering

MBA in Quality Management Systems –

Healthcare and Environment

Master's Degree in Digital Transformation

Qualifying

Work Experience Over 13 years

# ANALYSIS AND ADVISORY EVALUATION OF REQUEST FOR NATIONAL INTEREST WAIVER

The following is an analysis and advisory evaluation of the request by Mariana Gonçalves da Cruz Bastos for a National Interest Waiver. The United States Citizenship and Immigration Services (USCIS) use the following three requirements to evaluate requests for a national interest waiver.

* ***Requirement 1*** *- The foreign national's proposed endeavor has both substantial merit and national importance.*
* ***Requirement 2*** *- The foreign national is well-positioned to advance the proposed endeavor.*
* ***Requirement 3*** *- It would be beneficial to the United States to waive the job offer and labor certification requirements.*

As discussed herein, I find that Mariana Gonçalves da Cruz Bastos meets the three requirements set forth by the USCIS to evaluate the National Interest Waiver. In my opinion, it is clearly in the national interest of the United States to grant her a National Interest Waiver given her impressive record of achievements in advanced manufacturing, project management, and sustainability within the automotive and industrial production sectors.

The remainder of this letter is structured as follows: First, I will describe how my academic and professional credentials qualify me to issue an informed opinion on the appropriateness of granting Mariana Gonçalves da Cruz Bastos a National Interest Waiver. Next, I will outline her work experience in the fields of industrial production and sustainable manufacturing, emphasizing her technical expertise and key accomplishments. Finally, I will demonstrate that she meets the three requirements set forth by USCIS to evaluate requests for a National Interest Waiver. The letter will conclude with a summary of these findings.

I am the current chairman of the Manufacturing Engineering Department at Central State University to briefly introduce myself. This program has been accredited by the Accreditation Board of Engineering and Technology (ABET) continuously since 1991. My academic credentials include a Bachelor of Science in Electrical Engineering with specialization in Communication and Electronics; a Master of Science with a specialization in Computers and Electronics both from Ain Shams University, Cairo, Egypt; a Master of Science Degree in Electrical Engineering from the University of Rochester, NY; and a Doctorate of Systems Engineering from the University of Toledo, Ohio.

I am a Professor of Manufacturing Engineering at Central State University, Wilberforce, Ohio. It is Ohio's 1890 Land-Grant University, regionally accredited by the Higher Learning Commission, located at 230 South LaSalle Street, Suite 7-500, Chicago, IL. I am a licensed professional engineer registered in the state of Ohio. I have published several journal articles in different areas of Manufacturing Engineering, Medical Imaging, Artificial Intelligence, Deep Learning, Robotics, and Control, and have given numerous presentations on Manufacturing engineering-related topics at professional and academic conferences. I have received numerous awards and was selected to receive several summer faculty fellowships with NASA, U.S. Air Force, and U.S. Navy. I am an active member of professional societies and a publications reviewer.

As an evaluator, I am responsible for reviewing academic and experiential qualifications to form part of a candidate’s credential evaluation report, providing a detailed analysis of the academic background and occupational experience that a person has received outside the United States. The documents that I have reviewed for Mariana Gonçalves da Cruz Bastos are:

1. A copy of Diploma and Transcripts
2. Resume of Mariana Gonçalves da Cruz Bastos
3. Employment records
4. Professional plan
5. Certificates

Through my academic and professional experiences, I have developed expert knowledge in analyzing, evaluating, and characterizing job duties, responsibilities, qualifications, and expertise within the engineering and manufacturing fields. I offer this letter as an independent expert, having never worked directly with Mariana Gonçalves da Cruz Bastos. Recognizing her achievements in the advanced manufacturing and sustainable production sectors, I provide my highest opinion of her exceptional contributions, unique abilities, and the significant value she will bring to the U.S. workforce and economy.

# The proposed endeavor

# Upon being granted residency, Mariana Gonçalves da Cruz Bastos plans to advance the U.S. automotive industry by leveraging her extensive expertise in project management, digital transformation, and sustainable innovation. As an Industrial Production Manager with a proven track record at Ford Motor Company, Mariana Gonçalves da Cruz Bastos intends to streamline automotive product development cycles, reduce costs, and enhance product quality. Her endeavor aims to incorporate cutting-edge technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and agile methodologies to drive efficiency and innovation within the sector.

# Operating primarily in Michigan, a hub for automotive innovation, Mariana Gonçalves da Cruz Bastos will collaborate with major manufacturers, research institutions, and local communities to implement sustainable practices and energy-efficient solutions. Her initiatives will not only elevate project management capabilities but also enhance the skills of project teams, fostering a culture of continuous learning and adaptation. By integrating lightweight materials and adopting advanced manufacturing techniques, she aims to reduce the environmental footprint of vehicle production while maintaining competitive cost structures.

# The proposed endeavor also emphasizes economic and social benefits, including job creation and workforce development, particularly in economically distressed areas. By aligning her efforts with national sustainability goals and market demands, Mariana Gonçalves da Cruz Bastos seeks to position U.S. automotive companies as global leaders in innovation and eco-friendly technology, ultimately contributing to the industry's long-term growth and resilience.

# The Manufacturing Sector in the U.S. encompasses the transformation of raw materials into new products through mechanical, physical, or chemical processes, as well as the assembly of complex goods. This sector serves a wide range of downstream markets, including automotive, aerospace, and consumer electronics, which drive consistent demand. Over the past five years, the sector has demonstrated resilience, with modest revenue growth at a compound annual growth rate (CAGR) of 0.5%, despite challenges such as rising operational costs, raw material price volatility, and supply chain disruptions. Technological advancements and increased automation have enhanced production efficiency, though profit margins have been compressed by increasing regulatory and compliance costs. Looking ahead, the U.S. manufacturing sector is expected to experience incremental growth, with revenue projected to grow at a CAGR of 0.1% to $7,144.5 billion by 2029. The sector will continue to face cost pressures, but investments in sustainability and green technologies are set to play a pivotal role in future developments. Opportunities in emerging markets such as electric vehicles and renewable energy will offer growth avenues. Additionally, manufacturers will focus on strengthening supply chain resilience and adopting innovative practices to remain competitive in a dynamic market[[1]](#footnote-1).

# Mariana Gonçalves da Cruz Bastos’s proposed endeavor is well-aligned with this industry. Her focus on integrating advanced technologies, streamlining product development, and implementing sustainable practices fits within the manufacturing sector's drive for innovation and efficiency. By leveraging her expertise in digital transformation and sustainability, she will contribute to enhancing the sector’s competitiveness and long-term growth.

# The need for the proposed endeavor by Mariana Gonçalves da Cruz Bastos is critical for both the U.S. manufacturing sector and the nation’s broader economic and technological landscape. The manufacturing industry, a cornerstone of American economic strength, is undergoing rapid transformations driven by technological advancements, global competition, and the pressing need for sustainable practices. In this dynamic environment, the integration of advanced project management methodologies, digital transformation strategies, and sustainability initiatives is not merely beneficial but essential to ensure the industry's resilience and maintain its competitive edge.

# Mariana Gonçalves da Cruz Bastos is uniquely positioned to address these challenges. Her expertise in incorporating technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and agile methodologies into manufacturing processes aligns with the sector’s growing reliance on real-time data, predictive analytics, and optimized production workflows. These innovations are pivotal in enhancing supply chain transparency, reducing lead times, and minimizing operational inefficiencies. In an era of global competition, manufacturers that adopt such advanced digital tools are better equipped to streamline operations and improve product quality, enabling faster response to market demands and securing a competitive advantage in international markets[[2]](#footnote-2).

# Her focus on sustainability is equally vital as environmental regulations grow more stringent and consumer demand for eco-friendly products intensifies. The adoption of sustainable materials and energy-efficient manufacturing techniques positions companies to lead in the burgeoning market for green technologies. This shift not only supports regulatory compliance but also opens new opportunities for U.S. manufacturers in emerging industries[[3]](#footnote-3) like electric and autonomous vehicles. Mariana Gonçalves da Cruz Bastos’s emphasis on reducing industrial emissions and resource consumption directly aligns with global sustainability goals, further highlighting the national and international importance of her work.

# Beyond operational improvements, her proposed endeavor emphasizes the development of a skilled workforce capable of meeting the demands of modern manufacturing. Through collaborations with research institutions and community-based initiatives, she will drive innovation while creating employment opportunities, particularly in economically distressed regions. This holistic approach ensures that her work not only benefits individual companies but also contributes to the broader economic and social fabric of the United States, fostering sustainable growth and long-term competitiveness in a rapidly evolving global market.

# This endeavor is vital for the U.S. as it seeks to bolster its manufacturing sector against global competition, drive technological innovation, and promote sustainable industrial practices. Mariana Gonçalves da Cruz Bastos’s project will significantly contribute to these goals, ensuring the sector remains a key driver of national economic prosperity and technological advancement.

# About Mariana Gonçalves da Cruz Bastos

# Mariana Gonçalves da Cruz Bastos is a seasoned professional with 16 years of experience in the automotive industry, specializing in project development management, cost reduction, and product innovation. Her tenure at Ford Motor Company has honed her expertise in leading global initiatives, implementing new products and accessories, and driving financial efficiency. Proficient in tools like GPDS, WERS, and Qlink, she excels in coordinating cross-functional teams, optimizing processes, and introducing new products, such as the globally launched Ecosport and Ka models.

# Mariana Gonçalves da Cruz Bastos earned her Degree in Production Engineering from Faculdade de Ciência e Tecnologia Área 1 in 2006, followed by an MBA in Quality Management Systems from Universidade UNIFACS in 2008. Most recently, she completed a Master's Degree in Digital Transformation from Universidade UNIATLANTICO in 2024. She is licensed with the Regional Council of Engineering and Agronomy (CREA) and holds membership in the Society of Women Engineers (SWE). Fluent in English and possessing a basic knowledge of Spanish, Mariana Gonçalves da Cruz Bastos excels in multicultural environments, consistently delivering innovative solutions and driving value in every project she undertakes.

# Mariana Gonçalves da Cruz Bastos has demonstrated extensive experience and remarkable achievements throughout her tenure at Ford Motor Company Ltda. in Camaçari, Bahia, Brazil. She joined the company on August 2, 2012, as a Global Project Management professional, where she oversaw the launch of B platform programs. Her responsibilities included leading alignment meetings, facilitating cross-functional integration, and managing cost reduction initiatives. Mariana Gonçalves da Cruz Bastos was instrumental in the successful global launch of the Ecosport to over 50 countries and coordinated the Ka Freestyle adaptation to Brazilian regulations. Her efforts culminated in the execution of over 500 projects, significantly enhancing Ford’s operational efficiency and market adaptability. Special programs such as Ecosport Storm and Ka Trail, which she launched, further solidified Ford's innovative edge in Brazil.

# On September 18, 2018, Mariana Gonçalves da Cruz Bastos transitioned to the role of Cost Attack Analyst. In this capacity, she led workshops and events aimed at generating cost reduction strategies within the Global Vehicle Development Program. She applied her expertise in benchmarking and cost estimation to optimize resource allocation, achieving considerable savings. Mariana Gonçalves da Cruz Bastos orchestrated the platform workshop for Project B-Pair, resulting in savings of $95.00 per vehicle and a tooling cost reduction of $2.68 million. During the pandemic, she innovatively implemented the first virtual workshop for Project Tophat, generating 163 cost-saving ideas and achieving additional savings of $33.00 per vehicle. Her consistent delivery of over 400 cost reduction ideas annually significantly boosted Ford's financial efficiency.

# Since January 8, 2024, Mariana Gonçalves da Cruz Bastos has been serving as an SUV’s PD Customization Analyst. Her role involves managing global vehicle development programs, introducing new accessories, and enhancing product customization to meet customer preferences. She has successfully implemented five new accessories for SUVs, increasing product revenue while ensuring timely delivery and quality. Through her leadership, Ford has fostered a culture of innovation in product development, with Mariana Gonçalves da Cruz Bastos driving the customization strategies that align with market demands.

# Across her roles, Mariana Gonçalves da Cruz Bastos has consistently delivered impactful results, demonstrating her ability to lead complex projects, implement innovative solutions, and drive substantial cost savings. Her career at Ford Motor Company Ltda. highlights her exceptional capabilities in project management, cost optimization, and product development, contributing significantly to the company’s success in Brazil and globally.

# Mariana Gonçalves da Cruz Bastos has received numerous awards and professional recognitions, reflecting her exceptional contributions to the automotive industry. In 2021, she was granted a 70% scholarship for the Master's Degree in Digital Transformation by the Fundação Universitária Iberoamericana (FUNIBER), recognizing her academic excellence and commitment to professional growth. That same year, she was acknowledged for developing the D2T Scorecard reporting system, a pivotal tool in Ford Motor Company's "Design to Target" process, which significantly enhanced data analysis and operational efficiency. She also earned recognition for implementing the “Familiarization” process for F-150 and RAM 1500 vehicles in Brazil, ensuring smooth product integration and team alignment.

# In 2019, Mariana Gonçalves da Cruz Bastos led the launch of the Ka Freestyle (B562MCA) in South America, successfully managing the complexities of international collaboration and earning accolades for her outstanding coordination and problem-solving skills. Her leadership was further recognized in 2017 with the SA PD Vision Award for driving innovation in South American product development. That year, she also led the launch of the Ecosport (B515 MCA), which was adapted for sale in 50 countries, and ensured the availability of EPT/TT parts crucial to project phases.

# Her earlier achievements include leading the assembly of prototype vehicles for engineering tests in 2016 and overseeing the B515MCA M1 Build in 2015, both of which highlighted her technical expertise and leadership in managing complex systems. In 2013 and 2012, she was recognized for her role in the realignment of BV256 catalogs, demonstrating her proficiency in technical coordination and effective communication. These accolades underscore Mariana Gonçalves da Cruz Bastos's dedication to excellence, innovation, and leadership in the automotive sector.

# Mariana Gonçalves da Cruz Bastos has acquired a diverse array of professional certifications that demonstrate her commitment to continuous learning and her expertise in key areas of the automotive industry. These certifications, obtained through Ford Motor Company and other renowned institutions, reflect her proficiency in quality management, safety standards, systems engineering, and leadership skills. The complete list of her certifications is as follows:

# RCL/RDM Apply - Ford Motor Company - 2024

# Vehicle Safety and Emissions Compliance & Investigations Process - Ford Motor Company - 2024

# Advanced Product Quality Planning (APQP) - Ford Motor Company - 2023

# Change Point Analysis Apply - Ford Motor Company - 2023

# Quality History Apply - Ford Motor Company - 2023

# PDTEC Design Failure Mode and Effect Analysis (DFMEA Apply) - Ford Motor Company - 2023

# Functional Safety Awareness - Ford Motor Company - 2023

# DFMEA Build - Ford Motor Company - 2023

# Interface Analysis Build - Ford Motor Company - 2023

# Failure Mode Avoidance Overview Build - Ford Motor Company - 2023

# Global Phased PPAP - Ford Motor Company - 2023

# SCCAF Build - Ford Motor Company - 2023

# PDTEC Systems Engineering Fundamentals - Ford Motor Company - 2023

# Boundary Diagram Build - Ford Motor Company - 2023

# 3 Legged 5 Why (Web Based Training) - Ford Motor Company - 2023

# PD Vision Award - Ford Motor Company - 2017

# Program Management Mentoring Program - Ford Motor Company - 2015

# Negotiation Techniques - Dale Carnegie Training - 2014

# Executive English Classes - Language Exchange International - 2012

# High Intermediate English Classes - Language Exchange International - 2012

# WERS Training - Ford Motor Company - 2009

# As someone with extensive experience in manufacturing engineering and project management, I recognize the unique value that Mariana Gonçalves da Cruz Bastos brings to her field. My own background in systems engineering and manufacturing has afforded me insight into the critical role that advanced project management methodologies, technological innovation, and sustainable practices play in modern industry. Similarly, Mariana Gonçalves da Cruz Bastos has demonstrated a deep understanding of these elements through her work as an Industrial Production Manager, particularly in the automotive sector.

# Her ability to integrate cutting-edge technologies, such as IoT and AI, into manufacturing processes mirrors the technological advancements I have explored in my own career. However, her targeted expertise in digital transformation within the automotive industry, coupled with her extensive track record of global project launches, sets her apart. Projects like the successful rollout of the Ecosport across 50 countries showcase her ability to manage complex, large-scale initiatives, a skill that few professionals master to such a degree. Furthermore, her emphasis on sustainability, from promoting energy-efficient manufacturing to the adoption of lightweight materials, aligns with the growing need for environmentally responsible practices, which I, too, have found to be indispensable in engineering disciplines.

# In the U.S., a country at the forefront of technological innovation and industrial leadership, her skills and knowledge could make a significant impact. Mariana Gonçalves da Cruz Bastos’s professional trajectory, which combines a robust academic foundation, advanced certifications, and practical experience in implementing innovative solutions, positions her to drive meaningful change. By applying her expertise, she could enhance operational efficiency, reduce costs, and improve product quality in a sector that is pivotal to the U.S. economy. Her capacity to lead multidisciplinary teams, navigate complex supply chains, and implement sustainable practices would provide U.S. companies with a competitive advantage in the global market.

# Her credentials, which include a Master's Degree in Digital Transformation and an MBA in Quality Management Systems, as well as numerous professional certifications, underscore her commitment to excellence and continuous learning. These qualifications, combined with her impressive portfolio of successful projects, distinguish her as a professional who consistently operates at a level above her peers. Her ability to translate theoretical knowledge into practical applications that deliver tangible results is a testament to her exceptional skill set.

# Mariana Gonçalves da Cruz Bastos possesses the expertise, experience, and vision to make a lasting contribution to the U.S. manufacturing sector. Her proven ability to innovate, coupled with her dedication to sustainability and efficiency, will not only benefit the organizations she collaborates with but also reinforce the country’s position as a leader in industrial and technological advancement.

# Mariana Gonçalves da Cruz Bastos will work in an area of substantial merit and national importance

**The proposed endeavor led by Mariana Gonçalves da Cruz Bastos holds immense potential to drive economic growth and job creation within the United States, even as she fills a specialized role.** Her expertise in industrial production management, particularly in integrating advanced technologies and sustainable practices, will create ripple effects across the organizations she works with. By optimizing processes and improving operational efficiency, her work will enhance the overall productivity of U.S. companies, enabling them to expand and thrive in a competitive global market.

The impact of Mariana Gonçalves da Cruz Bastos’s role extends beyond her immediate contributions. Her implementation of innovative project management strategies and digital transformation initiatives will generate demand for a skilled workforce. This need will translate into new employment opportunities for U.S. workers in areas such as technology, engineering, manufacturing, and sustainability. Additionally, her collaboration with local communities and educational institutions will foster workforce development, equipping individuals with the skills necessary to participate in these growing sectors.

Moreover, her focus on sustainability and efficiency aligns with the increasing demand for environmentally responsible practices, which will attract investment and drive growth in emerging markets such as electric vehicles and renewable energy. These industries are pivotal for the future of the U.S. economy, and Mariana Gonçalves da Cruz Bastos’s contributions will help position the country as a leader in these fields. Her role may be singular, but the broader economic benefits of her initiatives will be felt across multiple layers of the industry, underscoring the substantial value of her proposed endeavor.

A lack of support for the proposed endeavor by Mariana Gonçalves da Cruz Bastos could have far-reaching negative consequences, not only for the U.S. manufacturing and automotive industries but also for the broader American economy. Historically, industries that failed to embrace innovation, sustainability, and efficiency have suffered from stagnation, loss of competitiveness, and reduced market share. This serves as a stark warning for the potential risks of neglecting initiatives like hers, which aim to advance digital transformation, sustainability, and operational efficiency.

The decline of the U.S. steel industry in the late 20th century provides a compelling example. The industry’s inability to modernize and adopt efficient production methods allowed international competitors, particularly from Japan and South Korea, to dominate the market. This failure resulted in significant job losses and economic decline in steel-producing regions, with ripple effects felt throughout the supply chain and related industries. The collapse of this critical sector highlighted the dangers of neglecting technological innovation and underscored the importance of continuous improvement to maintain global competitiveness[[4]](#footnote-4).

The 2008 financial crisis further illustrates the risks of failing to adapt. During this period, U.S. automotive companies that had not prioritized fuel efficiency and sustainable practices found themselves unable to meet the rapid shift in consumer demand for environmentally friendly vehicles[[5]](#footnote-5). This lack of foresight led to financial instability, forcing the government to intervene with bailouts for major companies like General Motors and Chrysler. The crisis revealed the vulnerability of industries that lag behind in innovation and underscored the critical need for sustainable practices to align with market and regulatory changes[[6]](#footnote-6).

Additional examples, such as Kodak’s downfall due to its reluctance to embrace digital photography and Blockbuster’s failure to adapt to the streaming revolution, further emphasize the consequences of resisting innovation. These companies, once industry leaders, lost their market dominance because they failed to anticipate and respond to technological advancements. Mariana Gonçalves da Cruz Bastos’s focus on digital transformation and sustainability directly addresses these historical lessons, providing a pathway for U.S. industries to avoid similar pitfalls and remain competitive in an increasingly globalized and environmentally conscious market.

Supporting her proposed endeavor ensures that U.S. manufacturers can proactively adapt to emerging challenges, secure their market position, and contribute to economic growth and resilience.

Neglecting her proposed endeavor could lead to stagnation in the adoption of essential technologies such as IoT and AI, which are critical for improving productivity and maintaining global competitiveness. It could also slow the transition to sustainable manufacturing, leaving U.S. industries at a disadvantage as international regulations tighten and consumer preferences shift toward eco-friendly products. Beyond economic losses, this could hinder the country’s progress toward achieving environmental goals, negatively impacting public health and contributing to climate change.

The potential consequences of inaction are clear: diminished industrial competitiveness, reduced innovation, and a failure to meet sustainability targets. Mariana Gonçalves da Cruz Bastos’s endeavor represents an opportunity to avoid these pitfalls, driving growth, innovation, and sustainability within the U.S. economy while ensuring its industries remain leaders on the global stage.

**The proposed endeavor by Mariana Gonçalves da Cruz Bastos holds the potential to significantly enhance societal welfare beyond its direct economic impact.** Through integrating sustainable practices and energy-efficient solutions into manufacturing processes, her work contributes to environmental preservation, which benefits public health and the well-being of future generations. Reducing industrial emissions and resource consumption not only helps combat climate change but also improves air and water quality, leading to healthier communities and lower healthcare costs associated with pollution-related illnesses.

Additionally, Mariana Gonçalves da Cruz Bastos’s initiatives in workforce development will empower individuals through the creation of high-quality jobs and skills training. This effort is particularly impactful in economically distressed areas, where access to education and employment opportunities can be limited. In fostering local talent and supporting upskilling, her endeavor promotes social mobility, reduces income inequality, and strengthens community resilience. Her focus on innovation also plays a critical role in addressing societal challenges. By driving advancements in green technologies and sustainable manufacturing, she supports the transition to a low-carbon economy. This not only aligns with global sustainability goals but also positions the U.S. as a leader in combating climate-related challenges, benefiting both the domestic population and the international community.

Furthermore, the increased production of sustainable and efficient products, such as electric vehicles, enhances consumer access to environmentally friendly alternatives. This shift supports the broader societal goal of reducing dependency on fossil fuels, fostering energy independence, and improving transportation systems. As these products become more accessible, they pave the way for a more sustainable and equitable society.

**The proposed endeavor by Mariana Gonçalves da Cruz Bastos has significant national and global implications within the fields of Industrial Production and Advanced Manufacturing.** Her work focuses on integrating cutting-edge technologies such as IoT, AI, and sustainable manufacturing practices, which are pivotal in shaping the future of these fields. These advancements do not merely enhance productivity and efficiency; they also serve as catalysts for broader economic and environmental transformations on both national and global scales.

Nationally, her endeavor supports the U.S. manufacturing sector’s efforts to maintain its competitive edge in a rapidly evolving global market. By streamlining production processes and adopting sustainable practices, Mariana Gonçalves da Cruz Bastos contributes to the resilience and adaptability of American industries, ensuring they remain at the forefront of innovation. This has far-reaching implications for economic growth, job creation, and the country’s ability to meet stringent environmental regulations, which are becoming increasingly critical in the global economic landscape.

Globally, the initiatives she proposes, particularly in sustainable manufacturing, address pressing issues such as climate change and resource depletion. Her focus on reducing industrial emissions and promoting energy efficiency aligns with international sustainability goals, including the United Nations’ Sustainable Development Goals (SDGs). This positions her work as a critical component of global efforts to transition toward a low-carbon economy. The adoption of her strategies by U.S. manufacturers could set a precedent, influencing industries worldwide to implement similar practices.

In the automotive sector, her contributions have the potential to advance the development and production of electric and autonomous vehicles, which are key to reducing global dependence on fossil fuels and minimizing greenhouse gas emissions. These innovations not only transform transportation but also enhance energy security and support global efforts to mitigate the impacts of climate change. Thus, the proposed endeavor by Mariana Gonçalves da Cruz Bastos transcends local and national boundaries, offering solutions to challenges that are critical to the future of industrial production, environmental sustainability, and global economic stability.

The proposed endeavor by Mariana Gonçalves da Cruz Bastos directly impacts issues recognized by the U.S. government as matters of national importance, particularly in the realms of manufacturing innovation, sustainability, and workforce development. Her focus on integrating advanced manufacturing technologies aligns with key federal initiatives such as the **Manufacturing USA Program**, which aims to secure U.S. global leadership in advanced manufacturing through collaboration and innovation. By implementing technologies like IoT and AI, Mariana Gonçalves da Cruz Bastos contributes to the program’s goals of enhancing productivity and fostering technological advancements in critical industries, including automotive manufacturing.

Her emphasis on sustainable practices resonates with the objectives of the **American Manufacturing Leadership Act (AMLA)**, which highlights the need for environmentally sustainable manufacturing processes. The Act promotes investment in energy-efficient technologies and materials, areas where Mariana Gonçalves da Cruz Bastos’s expertise is particularly relevant. Her initiatives also support the **Executive Order on Tackling the Climate Crisis at Home and Abroad**, which underscores the importance of reducing industrial emissions and transitioning to a clean energy economy. By advocating for lightweight materials and energy-efficient manufacturing, her work contributes to the broader goal of achieving net-zero emissions.

Additionally, her commitment to workforce development aligns with the **Workforce Innovation and Opportunity Act (WIOA)**, which emphasizes the need for upskilling and preparing workers for high-demand industries. Mariana Gonçalves da Cruz Bastos’s initiatives in training and mentorship will not only enhance the capabilities of the manufacturing workforce but also address the skills gap identified as a critical challenge by the U.S. Department of Labor.

These national initiatives underscore the importance of her proposed endeavor. Mariana Gonçalves da Cruz Bastos’s work advances goals that are vital to the country’s economic growth, environmental sustainability, and global competitiveness. Her contributions directly support federal efforts to strengthen the manufacturing sector, reduce carbon emissions, and prepare the workforce for the challenges of the 21st century.

**The proposed endeavor by Mariana Gonçalves da Cruz Bastos demonstrates substantial merit and national importance within the fields of technology, sustainability, and advanced manufacturing.** Her work, which centers on implementing cutting-edge manufacturing methodologies and fostering sustainable practices, aligns with critical national priorities in business and technological innovation. Mariana Gonçalves da Cruz Bastos's focus on enhancing operational efficiency through IoT, AI, and other advanced tools underscores her role in driving productivity and competitiveness in industries foundational to the U.S. economy.

In the realm of sustainability, her initiatives to integrate energy-efficient solutions and reduce industrial emissions directly support national efforts to combat climate change. This aligns with federal goals articulated in policies like the Executive Order on Tackling the Climate Crisis and the American Manufacturing Leadership Act, both of which emphasize the transition to a low-carbon economy. By promoting these practices, Mariana Gonçalves da Cruz Bastos contributes to the broader objective of environmental stewardship, a matter of urgent national and global significance.

The national importance of her endeavor is further highlighted by its potential to influence workforce development and job creation. Through her emphasis on skills training and technological adaptation, she addresses the evolving needs of the U.S. labor market, particularly in manufacturing and technology. Her initiatives support national frameworks such as the Workforce Innovation and Opportunity Act, which aims to equip workers with the skills necessary for high-demand, high-growth industries.

In evaluating the potential prospective impact of her proposed endeavor, it is evident that Mariana Gonçalves da Cruz Bastos's work has far-reaching implications. Her contributions extend beyond individual businesses to benefit the national economy, environmental sustainability, and workforce resilience. This broad and multi-faceted impact underscores the national importance of her proposed endeavor.

# Mariana Gonçalves da Cruz Bastos is well-positioned to advance the proposed endeavor

Mariana Gonçalves da Cruz Bastos **is exceptionally well-positioned** to advance her proposed endeavor, as evidenced by her extensive education, professional experience, and track record of success in the field of advanced manufacturing and sustainability. She holds a Master’s Degree in Digital Transformation, an MBA in Quality Management Systems, and a Bachelor’s Degree in Production Engineering, all of which provide a strong theoretical foundation for her work. These qualifications are complemented by numerous certifications in project management, quality assurance, and sustainable practices, demonstrating her commitment to continuous professional development.

Her professional career spans over 16 years, during which she has consistently delivered impactful results in the automotive manufacturing industry. Mariana Gonçalves da Cruz Bastos has led major projects such as the global launch of the Ecosport, which required meticulous coordination across multiple markets and regulatory environments. This experience underscores her ability to manage complex initiatives, adapt to diverse challenges, and implement innovative solutions that drive efficiency and productivity. Furthermore, her expertise in leveraging technologies like IoT and AI has already shown measurable success in optimizing operations and enhancing product development processes.

In addition to her education and professional accomplishments, Mariana Gonçalves da Cruz Bastos has outlined a detailed model for future activities in her proposed endeavor. Her plan emphasizes the integration of sustainable manufacturing practices and advanced project management methodologies, with a clear focus on measurable outcomes such as reduced production costs, lower emissions, and improved workforce capabilities. This model demonstrates her strategic approach to addressing industry challenges and aligning her efforts with national priorities in sustainability and innovation.

While specific evidence of interest from potential stakeholders may not have been highlighted earlier, her professional history indicates a strong potential for collaboration and investment. Her work aligns with the needs of U.S. industries aiming to enhance their competitive edge and comply with evolving environmental regulations. Given the growing demand for professionals with her unique expertise, it is likely that her proposed endeavor will attract significant interest from industry leaders, research institutions, and policymakers seeking to advance the manufacturing sector.

In sum, Mariana Gonçalves da Cruz Bastos’s robust combination of education, experience, and a well-conceived action plan positions her as an ideal candidate to drive the success of her proposed endeavor in the United States.

# Waiving the job offer and labor certification requirements for Mariana Gonçalves da Cruz Bastos would be beneficial to the U.S.

**Waiving the requirements of a job offer and labor certification for Mariana Gonçalves da Cruz Bastos would be beneficial to the United States for several compelling reasons.** The nature of her proposed endeavor, which focuses on advancing sustainability and digital transformation in manufacturing, makes it impractical for her to secure a traditional job offer that fully encompasses the scope and impact of her work. Her specialized expertise and the broad national and global implications of her initiatives are not easily confined to a single employer’s needs. The labor certification process, designed to protect the interests of U.S. workers, may not adequately capture the urgency and national importance of her contributions.

Even assuming other qualified U.S. workers are available, the United States would still benefit uniquely from the contributions of Mariana Gonçalves da Cruz Bastos. Her combination of education, skills, and demonstrated success in leading complex projects in the automotive industry places her among a select group of professionals capable of driving significant advancements in sustainability and manufacturing technology. Her proposed endeavor does not displace U.S. workers but instead fosters job creation through enhanced productivity and the introduction of new technologies. By promoting workforce development and training, she equips American workers with the skills necessary to thrive in an evolving industrial landscape.

Furthermore, the national interest in her contributions is sufficiently urgent to warrant forgoing the labor certification process. As industries across the U.S. face mounting pressure to adopt sustainable practices and improve efficiency, her work directly addresses these critical challenges. Her efforts support federal initiatives aimed at reducing carbon emissions and enhancing the competitiveness of American manufacturing, goals that are vital to the country’s economic and environmental future.

In addition, Mariana Gonçalves da Cruz Bastos’s endeavor is structured in a manner that is likely to stimulate economic growth and job creation. Her focus on sustainability and innovation not only strengthens existing industries but also opens new markets and opportunities for investment. By advancing these goals as an independent professional, she operates in a way that complements rather than competes with the U.S. labor force.

On balance, the unique and substantial benefits of her contributions, coupled with the impracticality of obtaining a labor certification for her specialized role, clearly demonstrate that waiving the job offer requirement serves the national interest. This waiver would enable Mariana Gonçalves da Cruz Bastos to fully realize her potential impact, advancing critical national priorities in manufacturing and sustainability.

# Conclusion

It is my opinion that Mariana Gonçalves da Cruz Bastos meets the following three requirements set forth by the USCIS to evaluate requests for National Interest Waiver. The aforementioned requirements are:

* ***Prong 1*** *- The foreign national's proposed endeavor has both substantial merit and national importance;*
* ***Prong 2*** *- The foreign national is well-positioned to advance the proposed endeavor;*
* ***Prong 3*** *- It would be beneficial to the United States to waive the job offer and labor certification requirements.*

It is my professional opinion that Mariana Gonçalves da Cruz Bastos fulfills the three criteria established by the United States Citizenship and Immigration Services (USCIS) for evaluating requests for a National Interest Waiver. The first requirement is that the foreign national's proposed endeavor possesses substantial merit and national importance. The focus of her work on sustainability, advanced manufacturing, and digital transformation addresses critical challenges in the U.S. manufacturing sector. These contributions not only align with national priorities such as reducing industrial emissions and enhancing productivity but also have the potential to strengthen the country’s position as a leader in technological innovation and sustainable practices.

The second requirement is that the foreign national is well-positioned to advance the proposed endeavor. Mariana Gonçalves da Cruz Bastos’s extensive education, including a Master’s Degree in Digital Transformation and an MBA in Quality Management Systems, coupled with her 16 years of professional experience, demonstrate her capability to lead complex and impactful projects. Her record of success, including global product launches and the implementation of innovative manufacturing strategies, highlights her ability to deliver measurable results. Her detailed plan for future activities and her expertise in leveraging advanced tools such as IoT and AI further underscore her readiness to advance her proposed endeavor effectively.

The third requirement considers whether it would be beneficial to the United States to waive the job offer and labor certification requirements. Given the broad implications of her work, which include job creation, workforce development, and the promotion of sustainable industrial practices, her contributions extend beyond the scope of a single employer. Her role in fostering innovation and driving economic growth is vital to the national interest. Moreover, her proposed endeavor does not displace U.S. workers but rather enhances their opportunities by equipping them with the skills necessary for high-demand roles in an evolving industrial landscape.

Mariana Gonçalves da Cruz Bastos meets all three USCIS criteria for a National Interest Waiver. Her proposed endeavor addresses issues of national importance, she is exceptionally qualified to advance her goals, and waiving the job offer and labor certification requirements would serve the best interests of the United States.

The foregoing is an analysis and advisory evaluation of Mariana Gonçalves da Cruz Bastos’s request for a National Interest Waiver based on documents he provided as well as independent research. The documents are represented to be authentic copies of the original documents.

To the best of my knowledge, I have no reason to doubt the authenticity and accuracy of these documents.

Sincerely,



Mahmoud A. Abdallah, Ph.D., PE Professor, Chairman

Manufacturing Engineering Department Central State University

November 6, 2024

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