

MEHDI GANJI

(415) 689-9777

mehdi.ganji@ieee.org

SUMMARY

Internationally published technical author, analytical thinker, and enthusiastic problem solver with 17+ years of global work experience in *Smart City Transformation* solution with focus in energy Decarbonization, Digitalization, Democratization, and Decentralization (4D), and broad combination of leadership, management, regulatory & policy skills and abilities required for growth strategies development, prioritization and deployment: including critical infrastructures resilience, smart grid technologies, microgrid and geothermal district energy, transportation electrification, energy storage (battery, thermal, and hydrogen); building multidisciplinary teams, and partnerships to perform complex projects; building innovation ecosystem platform to enable the engagements of communities with Social Equity & Environmental Justice advancement needs; advancing markets, policies and standards supporting innovative solutions adoption; and leveraging public funds to build P3 ownership and operating model; educating the adopters on innovative solutions, and advocating for developing a vision using *Smart City Transformation* solution through public talks, and publications.

EXPERIENCE

Willdan Group, Anaheim, CA

2015-Present

Vice President

Willdan is a publicly traded company with more than 48+ offices across the country, including CA, NY, CT, NJ, MA, TX, IL, FL, WA, OR, and MN serving its clients (Cities, Utilities, municipalities, federal and state agencies, and large scale customers) through four primary services energy, engineering, financial, and security. Mehdi's responsibility portfolio includes developing new solutions, supporting acquisitions, building teams and partnerships, and overseeing projects.

New Business Development

- Develop a strategy around new practices and acquire resources (internal, external, and technologies) using the existing scientific and industrial proven standards.
- Lead and manage a nationwide team of engineering, security, legal, and financial services experts to reach the new practices plan milestones.
- Serve on acquisition committee to acquire technology (Integral Analytics and Weidt Group), Policy (Energy+Environmental Economics), and consulting and Engineering (Genesys, NAM, Lime Energy, Onsite) companies using Environmental, social, and governance (ESG) criteria to support organic company growth.
- Develop the *Smart Energy Community* plan for various local governments, including Culver City and Huntington Beach in California, Jacksonville, Michigan (Utility-funded), and Framingham, MA (State-funded).
- Develop bus fleet electrification plan for the Worcester Regional Transit Authority leveraging School District microgrids charging stations.
- Develop Community Microgrid projects in the City of San Jose and Chemehuevi Tribal Reservation, which included the application of cutting-edge technologies and an innovative 3P ownership and operating solution.
- Publish articles and books; and talk at conferences and symposiums with a broad combination of audiences from policymakers, utilities, researchers, developers, and communities with Social Equity & Environmental Justice advancement needs.

Stakeholder Engagement/Partnership Establishment

- Lead a team of more than 30 internal resources, including engineering, urban planning, financial, and legal; and coordinate with external resources and technologies to develop and apply innovative solutions.
- Establish a collaborative environment with global market leaders, including the United Trade and Development Agency (USTDA) and European organizations such as the European Bank of Reconstruction and Development (EBRD).
- Establish the required partnership with cutting-edge industries, private equity, and investors to develop, design, and implement innovative solutions.
- Co-develop the mechanism to finance innovative solutions by implementing clients' education, leveraging public funds and incentives (tax equity, utility incentives, and grants), and setting up 3P agreements.
- Advocate for universities and R&D centers' research-supported results at the federal and state levels, utilities, regulatory and local jurisdictions, working groups, and guidelines and standards development initiatives.

- Partnered with the Michigan State University and major utilities to conduct Planning charging infrastructure for plug-in electric vehicles in city centers in the State of Michigan, funded by the State of Michigan Office of Energy
- Interact with local governments through peer-peer and group engagement (such as the City of San Jose, Huntington Beach, Culver City, and Chicago, California League of Cities).

Regulatory & Policy Collaboration

- Support the federal R&D agencies (DOE and USTDA), state R&D agencies (California Energy Commission-CEC, NY State Energy Research and Development Agency-NYSERDA, Massachusetts Clean Energy Center-MassCEC, California Strategic Growth Council-SGC), and Public Utility Commissions (CPUC).
- Lead the Southern California Edison (SCE)'s red-cross shelter microgrid pilot project, defined as the success story in SCE's wildfire mitigation proposal submitted to CPUC under the CPUC Rulemaking 19-09-009.
- Be an active member of CPUC Proceedings for Buildings and Transportation Electrifications, Microgrids, and Distributed Energy Resources.

Sovereign Resiliency Partners, San Francisco, CA

2020-Present

Smart Reservation Adviser

Sovereign Resiliency Partners is committed to further helping Native American social and economic well-being. It focuses on consulting and project development services that lower energy costs, improve energy reliability and resilience, and enable tribal clients better to manage resources, assets, and community services. Mehdi's responsibility portfolio includes developing new solutions, building teams and partnerships, and overseeing projects.

Creation of Innovative Solutions

- Develop the first-of-its-kind *Smart Reservation* solution applicable to more than 574 federally recognized tribes.
- Adopt *Smart Reservation* solution at Tule River Indian Tribe of California (TRIT) using state funding.
- Design and develop the Tule River Indian Tribe of California (TRIT) New Eagle Casino microgrid.
- Design and develop the Tejon Green Energy and Transportation Community solution.
- Develop a bus fleet electrification plan for the Tule County Regional Transit Authority leveraging Tule River's planned public charging stations.

Stakeholder Engagement/Partnership Establishment

- Collaborate with tribal reservation (TRIT and Tejon), utilities (SCE and Pacific Gas and Electric-PG&E), and regulatory and policy (CPUC, CEC, and SGC) in the development and implementation of projects.

Regulatory & Policy Collaboration

- Work with the CPUC Tribal team on energy and broadband initiatives.
- Represent the tribal communities in different regulatory and policy discussions.

Illinois Institute of Technology, Galvin Center for Electricity Innovation, Chicago, IL

2012-2015

Director of Operations

The Robert W. Galvin Center for Electricity Innovation at the Illinois Institute of Technology (IIT) aims to pursue groundbreaking work in electricity generation, transmission, distribution, management, and consumption. The Galvin Center brings universities, industry, government, and non-profit research entities to plug into Illinois Tech's microgrid, research laboratories, and Technology Park, creating a hub—or sandbox—for innovations in advanced grid technology. Mehdi's responsibility portfolio includes developing new solutions, building teams and partnerships, and overseeing projects.

Creation of Innovative Solutions

- Develop, design, construction management, operation, and maintain the DOE-funded campus microgrid solution.
- Coordinate with the team of researchers, graduate students, and international visiting scholars.
- Develop innovative solutions (technologies, algorithms, and turn-keys) and support technology developers to deploy their innovative solutions with minimum deployment and operational risks.

Stakeholder Engagement/Partnership Establishment

- Collaborate with IIT legal and business school faculties to facilitate the commercialization of emerging technologies using the results generated by the on-campus deployed technologies' performance evaluation.
- Leverage the university campus talents to implement real-world projects (9 NY Prize Community Microgrids, 3 MassCEC Community Microgrids, 3 CEC projects) and train experienced workforces to operate the future grid.

- Manage the Center for Smart Grid Applications, Research, and Technology (CSMART) to test and evaluate emerging technology performance and collaborate with technology developers, investors, and early adopters, such as local jurisdictions (City of Chicago) and utilities (Commonwealth Edison-ComEd), for large-scale adoptions.
- Serve on the strategy development committee to develop and prioritize growth opportunities.
- Serve on the emerging technologies legal committee and actively participate in IP-related discussions.

Regulatory & Policy Collaboration

- Collaborate with Chicago utility, ComEd, and Illinois Commerce Commission (ICC) team to prepare the microgrid tariff for the first of its kind, Bronzeville Nested microgrid.

San Francisco State University, Industrial Assessment Center, San Francisco, CA

2009-2010

Project Manager

The USDOE Industrial Assessment Centers (IACs) can help small and medium-sized US manufacturers save energy, improve productivity, and reduce waste by providing no-cost technical assessments conducted by university-based engineering students and faculty teams. Mehdi's responsibility portfolio includes client outreach, audit preparation, building teams and partnerships, and implementing projects.

Responsibilities

- Collaborate with a team of energy engineers to perform energy audits, and prepare reports using the analysis.
- Manage the DOE funds to implement projects at the medium size facilities.

EDUCATION

Illinois Institute of Technology, Chicago, IL

2012-2015

Ph.D. in Electrical Engineering; Major in Resilient and Reliable Energy Supply

GPA: 4

- **Campus Microgrid:** developed a campus microgrid system, microgrid Standard Planning and Operation Platform, microgrid in the residential sector using a smart home, microgrid in the commercial sector using Demand-Side Management System, V1G, and V2G, including an employee engagement program
- **Smart Home Operation Dashboard:** developed a real-time platform to provide visibility and controllability to home residents considering their daily schedules, real-time pricing scheme, and Distributed Energy Resources (DERs)
- **IIT Commercial Building Microgrid:** developed a solution system using different technologies, including EATON direct load control panel and Zigbee communication

Illinois Institute of Technology, Chicago, IL

2010-2012

MSC in Electrical Engineering; Major in Energy Market Reliability

GPA: 3.85

- **Security-Constrained Unit Commitment Reserve Determination in Joint Energy and Ancillary Services Auction:** developed a methodology to enable the Independent System Operators (ISO) to determine the sufficient amount of reserve necessary to maintain the security and reliability of the system

San Francisco State University, San Francisco, CA

2009-2010

MSC in Electrical Engineering; Major in Embedded Systems (Transferred)

GPA: 4

TECHNICAL & ADVISORY ENGAGEMENTS

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| • California Public Utility Commission Transportation Electrifications Rulemaking | 2019-Present |
| • California Public Utility Commission Microgrid/Resilience Rulemaking | 2019-Present |
| • California Vehicle to Grid Integration (VGI) Technical Committee | 2016-Present |
| • California Renewables-based Microgrid Commercialization Roadmap Technical Committee | 2017-Present |
| • Galvin Center for Electricity Innovations Industry Partners Committee | 2015-Present |
| • Microgrid Controller Standard Specifications for Microgrid Controllers (IEEE 2030.7&8) | 2015-Present |
| • Distributed Energy Resources Interconnection Standards (IEEE 1547) | 2015-Present |
| • Distributed Energy Resources Management System (DERMS) As a Service (Anterix) | 2021-Present |
| • National Electric Vehicle Infrastructure for Heavy Duty Vehicles (Mavericks) | 2022-Present |
| • IEEE Smart City R&D Committee Chair | 2018-2021 |

PUBLICATIONS

Jazlan, Farish, Ramin Saedi, Ali Zockaie, Mehrnaz Ghamami, Michelle Boucher, Hediye Tuydes-Yaman, **Mehdi Ganji**, and Andrea Marr. "Smart City: A Mobility Technology Adoption Framework Incorporating Surface-Level Technical Analysis." *Current Urban Studies* 10, no. 3 (2022): 381-404.

Soltanpour, A., Ghamami, M., Nicknam, **M., Ganji, M.**, & Tian, W. (2022). Charging Infrastructure and Schedule Planning for a Public Transit Network with a Mixed Fleet of Electric and Diesel Buses. *Transportation Research Record*, 03611981221112405.

M. Ganji, "Airport Microgrids: Transportation Energy as a Service [Viewpoint]," in *IEEE Electrification Magazine*, vol. 8, no. 4, pp. 121-124, Dec. 2020, doi: 10.1109/MELE.2020.3026512.

M. Shahidehpour, Z Li, **M. Ganji**, "Smart Cities for a Sustainable Urbanization: Illuminating the Need for Establishing Smart Urban Infrastructures," *IEEE Electrification Magazine*, 2018.

M. Shahidehpour, **M. Ganji**, "The Growing Impact of Smart Cities," *IEEE Electrification Magazine*, 2018.

M. Ganji, Mohammad Shahidehpour, "Development of a Residential Microgrid Using Home Energy Management Systems," *Application of Smart Grid Technologies*, Academic Press, pp.173-192, ISBN 9780128031285, 2018.

M. Ganji, M Shahidehpour, "Development of a Residential Microgrid Using Home Energy Management Systems," *Application of Smart Grid Technologies*, Elsevier, 2018.

M. Ganji, "Smart Grids: Advanced Technologies and Solutions," 2nd Edition, Taylor and Francis, November 2017.

P. Burgess, M. Shahidehpour, **M. Ganji**, D. Connors, "Remote Power Units for Off-Grid Lighting and Urban Resilience," *IEEE Electrification Magazine*, vol. 30, no. 4, pp. 16-26, May 2017.

M. Ganji, "Optimal Load Scheduling in Commercial and Residential Microgrid," 2015.

M. Ganji, "Security-Constrained Unit Commitment Reserve Determination in Joint Energy and Ancillary Services Auction," 2012.