

Oscar Carmona | Country Manager, Colombia, MsC., P.E.

AK 9 #115-30, Bogota, Colombia (ZC 110111)

Direct Phone: +57.314.612.6380

Oscar.Carmona@efiglobal.com

Professional Summary:

Mr. Carmona has fifteen years of experience in design, seismic design, construction, evaluation and retrofit of existing buildings, as well as structural health monitoring and forensic engineering of building structures and infrastructure of bridges, electrical substations, highway and hydroelectrical projects in the Americas. He also has extensive experience with structural dynamics and advanced finite element modeling used in the seismic design of buildings and infrastructure. His experience includes technical supervision during construction of different types of buildings.

Mr. Carmona holds a Master's in Applied Mechanics (with emphasis in structural engineering and seismic vulnerability of reinforced concrete buildings) and has also specialized in Seismic Engineering at EAFIT University in Medellin, Colombia. He was also a professor of structural engineering and applied mechanics at Universidad de Medellin while studying for his Master's. Mr. Carmona is a registered Professional Engineer in Colombia. He has complemented his profession with a master degree in Disaster Risk Management.

As Country Manager for EFI Global Colombia, Oscar will provide independent engineering consulting services in structural analysis and peer review, on large/medium/small property losses to facility owners, insurance carriers and re-insurers, independent adjusters, and attorneys in Colombia and throughout Latin America.

Areas of Expertise:

- Forensic Engineering
- Vulnerability assessment of building and infrastructure
- Structural Failure Analysis
- Structural and Finite Element Analysis
- Structural Health Monitoring
- Consulting Engineering Services

Licenses and Certifications:

Registered Engineer in Colombia, #05202-122205 (Civil Engineering)

Project Experience:

Forensic Engineering:

Multiple inspection assigns in Florida, USA. Supporting the local team with assigns from the catastrophic Hurricane Ian in western Florida. 2022.

Concrete Face Rockfill Dam, Colombia. Forensic engineering - construction documents assessment and its relationship with massive dam settlement, filtrations in the right abutment and mitigations works, 2021-2022.

Textile factory, San Pedro Sula, Honduras. Evaluation of loss and replacement of production machinery and auxiliary services of six production plants and evaluation of loss and repair of civil works for the treatment of industrial wastewater. The damage resulted from regional flooding due to hurricanes Eta and Iota in November 2020. Claim value: USD +200 M. (2020-2022).

El Alto Hydroelectric Power Plant, Panama. Evaluation of the extent of damage to the civil works of the dissipative bed and weir downstream of the main dam after an extraordinary surge due to Hurricane Eta in November 2020.

Pacifico 1 Highway, Antioquia, Colombia. Forensic investigation (cause and origin) of multiple landslides.

Piramide del Sol metro station, Lima, Peru. Investigation of the scope or the repairs carried out at the metro station.

Mocoa Substation, Putumayo, Colombia. Assessment of the extension and cost estimation of the loss of the 230-kW substation due to a massive mudslide.

Cement, Aggregates and Concrete Plant, Meta, Colombia. Reconstruction cost estimation of the loss due to a regional flooding.

Partial Collapse of 2-story Building, Bello, Colombia. Structural concept in the stability and remedial work required after the partial collapse of a 2-story academic building.

MGM National Harbor Resort, Oxon Hill, Maryland, USA. Field assessment of remedial work of over 85 precast planter units.

Playas hydropower station powerhouse fire loss, Antioquia, Colombia. Cost estimation of loss and assessment of salvage value for the remaining parts of the building.

15 story residential building, Cali, Colombia. Repair cost assessment for low resistance concrete in two fully built slabs of the building.

Oil kernel industrial processing plant fire loss, Meta, Colombia. Cost evaluation of fire loss from civil works and equipment of a palm oil processing plant.

Vulnerability assessment and retrofit of existing buildings:

Post-earthquake screening assessment, States of Mexico City, Morelos and Puebla, Mexico. Assessment of over 30 different kind of buildings after September 2017 earthquakes.

Steel pedestrian bridge, Colombia. Seismic vulnerability assessment, health monitoring and retrofit design of a pedestrian steel bridge connecting two main blocks of a public school.

Analysis of seismic vulnerability and retrofit design of RC building Empresas Varias de Medellin EEVVM, Medellin, Colombia. Destructive and non-destructive testing for seismic vulnerability evaluation and health monitoring, seismic vulnerability analysis and design of retrofit alternatives for the mixed-use 4-story building located in intermediate seismic zone.

Selected infrastructure project experience:

Pacifico 1 Road Concession, Colombia. Construction monitoring of the USD 690 million road concession project. The project has 32 Km of new lane road, over 50 bridges and 2 tunnels. Work performed included the monitoring of the schedule and budget of the project on behalf of the insurers.

Post-tensioned Concrete Bridge, San Matias, Colombia. Structural design of 3-span post-tensioned bridge, 104 m [340 ft.] long.

Buildings and Urban Facilities of Memorial Park El Socorro, Medellin, Colombia. Seismic design of buildings and urban development.

Expansion of Urban Viaduct, Medellin, Colombia. Structural design of an urban viaduct for EDU (public infrastructure office).

Small Hydroelectric Power Stations San Bartolome and Oibita, Santander, Colombia. Structural design of infrastructure such as embankment, open conduction channels, surge tanks, penstock anchorages, powerhouse, RC and post-tensioned bridges to access the station.

Selected building projects of structural design and construction inspection:

Mr. Carmona participated as structural engineer and/or project manager in projects developed in Latin America, USA and UEA. Some selected projects:

- Premier Inn Hotel (Dubai, United Arab Emirates).
- Half Moon Oleander Resort (Montego Bay, Jamaica).
- Aventura Mall – Expansion (Florida, USA).
- Flat Iron (Miami, Florida, USA).
- Paramount Miami World Center (Florida, USA).
- San Nicolas shopping center (Rionegro, Antioquia, Colombia).

Professional Experience:

EFI Global | Colombia. Country manager, September 2020 – present.

DeSimone Consulting Engineers South America, Project Manager, 2019 – 2020.

DeSimone Consulting Engineers South America, Senior Project Engineer, 2014 – 2018.

Universidad de Medellin, Professor of chair, 2011-2013.

HMV Ingenieros SA, Ingeniero de Proyectos, 2011 – 2014.

Estructuras Interventorias y Proyectos Ltda —EIP—, Ingeniero de Proyectos, 2008 - 2011.

Horacio Londoño y CIA, Ltda —Medellin—, Supervisor Técnico y Administrativo, 2005-2008.

Education:

MSc. Applied Mechanics (seismic vulnerability assessment), EAFIT University, Medellín, 2012.

MSc. Disaster Risk Management and Climate Governance. Alfonso X El Sabio University, Madrid, Spain, 2022.

Specialization in Earthquake Resistance Engineering, EAFIT University, Medellín, 2009.

B.Sc., Civil Engineering, EAFIT University, Medellin, Colombia, 2005.

Affiliations:

American Concrete Institute (ACI).

Asociación de Ingenieros Estructurales y Geotecnistas de Antioquia (AIE).

Asociación Colombiana de Ingeniería Sísmica (AIS)