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Imaging a Safer Future



First Technology Demo at
"7 Miles Bridge" in Florida

2007

2011

Office Established in
Washington DC

First Interstate Bridge
Inspection Project in Ohio

2014

Official Distributor of FLIR
Infrared Cameras

2015

First International Dam
Inspection Project in Brazil

2016

First Industrial Inspection
Project in Europe

2017

Prime Consultant in the US
for Virginia DOT Project

2017

Company background

NEXCO-West USA, Inc. is a structural inspection company whose disruptive technology is transforming the structural inspection and maintenance process worldwide. By imaging structural surface and sub-surface layers, NEXCO identifies condition states; optimizing life-cycle analyses and providing comprehensive information on the current conditions of the structures.

NEXCO is a leading force in advocating for the exchange of transportation technology throughout the globe. We build cross-border business relations by providing an entry point to introduce innovations in Japan, as well as facilitating exports to Japanese companies.

NEXCO's engineers come from various academic and cultural backgrounds. We understand that true innovation occurs when the incorporation of different perspectives and ideas work towards a common goal. Our interdisciplinary engineering team keeps our company at the forefront of non-destructive inspection technology.

NEXCO's trainees are exposed to new ideas and environments outside of their comfort zone through our extensive training programs. In this way, they add to their technical skills and develop the adaptability and dependability required in rapidly changing fields.





Structural Inspection

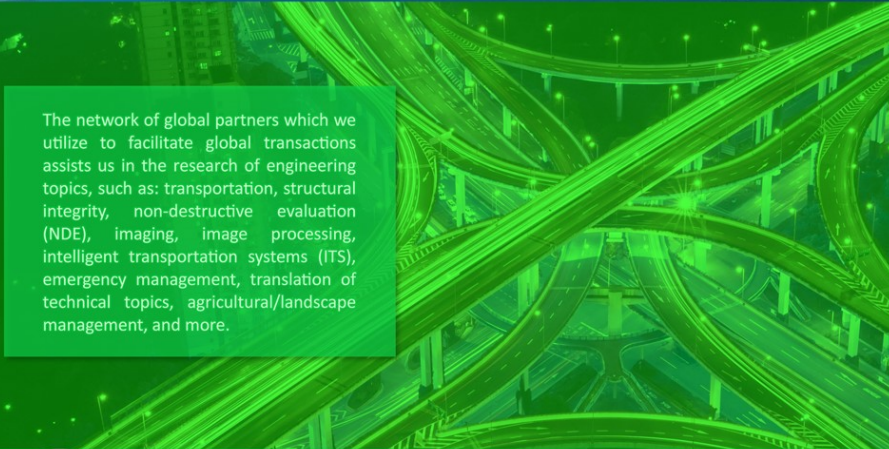
NEXCO-West USA's non-destructive technology allows the ability to virtually access and inspect surfaces with ease, avoiding the risk and dangerous situations associated with traditional inspection methods such as rappelling, roadside visual inspection, or sounding techniques. The use of our technology dramatically reduces the time associated with current inspection methods, and increase the safety of inspectors as well.



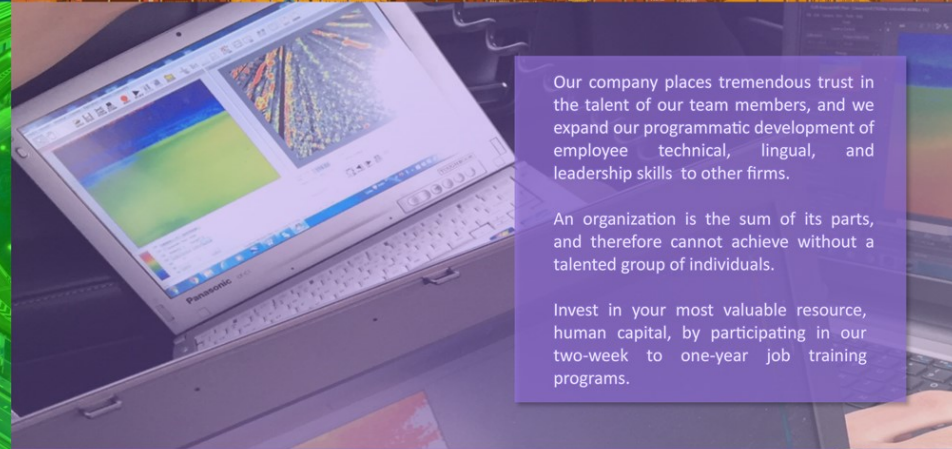
Market Entry Consulting

Extremely strong ties with countless firms in both the US and Japan allow us to access a wealth of information about emerging technologies and news related to transportation and structural engineering. Our consultation will assist your firm to break into your desired market.

We have successfully mediated business connections between prominent American road infrastructure maintenance companies and Japanese highway network owners. We navigate the delicate negotiation and cultural nuances involved in closing large scale international deals on a regular basis.



The network of global partners which we utilize to facilitate global transactions assists us in the research of engineering topics, such as: transportation, structural integrity, non-destructive evaluation (NDE), imaging, image processing, intelligent transportation systems (ITS), emergency management, translation of technical topics, agricultural/landscape management, and more.



Our company places tremendous trust in the talent of our team members, and we expand our programmatic development of employee technical, lingual, and leadership skills to other firms.

An organization is the sum of its parts, and therefore cannot achieve without a talented group of individuals.

Invest in your most valuable resource, human capital, by participating in our two-week to one-year job training programs.



Engineering Research



Technical Training



Structural Inspection

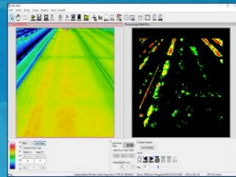
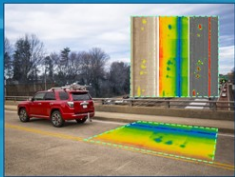
According to the annual Infrastructure Report Card published by the American Society of Civil Engineers (ASCE), U.S. infrastructure has been consistently given a 'D' grade. A 'D' indicates that the infrastructure is at risk, with "many elements approaching the end of their service life... with strong risk of failure".

NEXCO utilizes Geographical Information Systems to develop and enhance the monitoring and tracking of deficient infrastructure throughout our nation. Our technology allows asset managers and infrastructure owners to effectively initiate rehabilitation and maintenance for deficient structures, thus preventing critical failures and collapses.

Utilizing NEXCO's proprietary technology, we offer a wide range of inspection services to adhere to our client's needs and requirements. No matter the structure or surface type, our expertise in the inspection field will allow us to provide the best options for an ideal evaluation of your infrastructure.



In addition to these unique services, NEXCO offers a wide selection of inspection products to meet our clients' specifications. These range from infrared thermography to high-definition image capturing, allowing for a combination of these hardware and software packages to fit any and all situations.



TRANSPORTATION SURFACES



NEXCO-West USA offers two inspection vehicles for the road surface application: **DTSS** and **SmartEagle**.

TUNNEL SURFACES



The **Tunnel Scanning System (TSS)** simultaneously inspects tunnels with both IRT and high-definition imagery, providing a comprehensive overview of any surface deficiency.

STRUCTURAL SURFACES



NEXCO poses a wide variety of solutions, such as **U3S**, **ACS**, or **IrBAS**, adaptable for all your structural inspection needs either over the water or on the ground.

IR

HD

DTSS

Deck Top Scanning System

SmartEAGLE

Asphalt Pavement Scanning System

TSS

Tunnel Scanning System

M360SI

Mobile 360 Scanning System

IrBAS

Infrared Bridge Assessment System

ACS

Automatic Camera System

U3S

Underside Surface Scanning System



Structural Inspection

Given the dynamic nature of our technology, we are able to apply our infrastructure engineering expertise with our technology to provide tailored solutions for each of our clients. We understand the complexity and differences that come with all types of infrastructure. The beauty of our inspection technology is its ability to be manipulated to suit the structures we are inspecting. Whether it is a short meeting with one of our expert engineers or a detailed proposal document, we will actively communicate with clients to determine how to best provide quality deliverables for each project.

We have adopted a 360° application focus for our inspection technology, allowing us to adapt the technology to most situations in the infrastructure engineering field. We propose a wide range of options and deliverables depending on client needs. This versatility encompasses the speed, distance, and even the depth to which we can evaluate targets. Whether travelling at highway speeds to identify sub-surface delaminations in concrete or stationary image capturing to identify surface cracks, our technology's versatility is unmatched in the current market.



Surface Evaluation

Static Inspection

Long Distance Capture



Short Distance Capture

Highway Speed Inspection



Sub-surface Evaluation



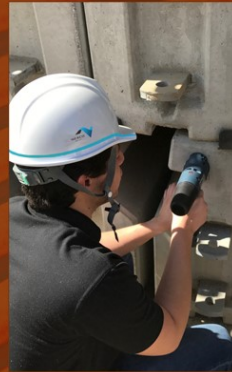
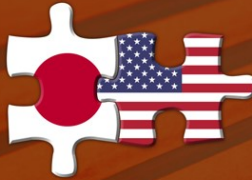


Market Entry Consulting

To supplement NEXCO's extensive knowledge in the infrastructure industry, we have a proven track record to introduce innovative, dynamic technologies to the markets we deal in, mainly the United States and Japan. In an industry of "seconds," NEXCO prides itself on being the first in many technological developments within the industry. From our detailed research to engineering consultations, we have exemplified what it means to trailblaze innovation into "traditional" markets that often practice the "second-mover" advantage of market entry.



NEXCO successfully mediated between NEXCO East and Lindsay Corporation in the sale of movable barriers (Road Zipper). The business deal led to the implementation of the product in multiple sites across Japan. This deal has proven the effectiveness of NEXCO's engineering research and market entry expertise when facilitating cross-cultural business investments.



Additionally, NEXCO helps Japanese businesses get a foothold in the US market by offering innovative technologies developed in Japan. We proudly use and sell several technologies invented and produced by our Japanese partners, Kurabo Industries, Ltd. This partnership has demonstrated the technology's applicability in the US market, tested and proven by our successful inspection projects within the United States.

These technologies include the Kuraves-Actis software set, produced by Kurabo, as well as the distance sounding probe invented by a Japanese manufacturer.





Engineering Research

Civil

Transportation



Structural

NDT

NEXCO studies historical data, current practices, and future trends pertaining to the inspection and preservation of infrastructure to improve our trade. Through many of our research efforts, we consistently expand our knowledge in the civil engineering field to refine our inspection practices.

We offer the same research services to our clients, into recent topics to provide an outlook for potential investments in the market. We personally link clients with other entities, private or public, to open up channels of information exchange.



Standards & Regulations

The introduction of many technologies fails at the implementation stage due to legal and regulatory boundaries. Concerning engineering standards, US states operate as if they are different countries. Japanese regulations, as well as the culture, can be very difficult to understand. As an engineering firm that has navigated through the complexities of international regulatory differences, NEXCO is adept in both technical and cross-cultural understandings to accomplish international objectives.

Smart Tolling



Connected Vehicle

Smart City

NEXCO actively consults its partners to find new areas of investment and growing demands. As we work collaboratively with major players in the transportation and vehicle manufacturing industries, we contribute to the development of new technologies. Coupled with the analysis of new trends, we gauge how government regulations will affect progress and implementation. Looking at potential opportunities holistically, we consider how all parties may be affected.

As a toll road operator, we understand that tolling and transportation systems are in a midst of much needed advancement. Smart infrastructures with the ability to process large data sets are on the horizon. Through research and the sharing of information, NEXCO is dedicated to creating a more secure, more sustainable, and more efficient living environment for current and future generations.

Intelligent Systems



Technical Training

At the conclusion of our technical training programs, trainees learn to satisfy ASTM, AASHTO, and specific client requirements to perform and report on inspections. Training is conducted in either short-term (two-week) or long-term (one-year) periods, with longer-term periods including increasingly advanced concepts. Our engineering experts will monitor and track your progress throughout the training program, assisting you every step of the way.

Stationery

IrBAS

ACS

Mobile

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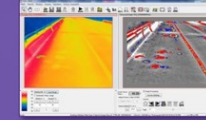


Course Objectives

- Gain advanced knowledge of hardware and software products
- Gain a sense of viable applications, advantages, and limitations of new NDE technology
- Gain hands-on experience
- Accurately identify and quantify findings
- Classify condition states to satisfy various project requirements
- Learn to track progressions of findings over time
- Publish comprehensive reports with plan-view mapping and interpretations

Infrared Thermography (IRT) Technology

IRT is one of the few NDE method that does not require direct access to a structure and can provide useful insight about sub-surface conditions. Use this technology to your advantage by acquiring valuable on-site experience. Replace piecemeal IRT images with automated stitching capabilities using IrBAS software.



High Definition (HD) Visual Technology

Harness the benefits of using NEXCO's HD visual technology by learning to capture informative imagery that helps detect surface deficiencies in all kinds of structural surfaces. Throughout HD visual courses, trainees use our property hardware and software to identify and notate surface defects. The courses include thorough review and usage of the systems that are involved in identifying and drawing surface deficiencies in all kinds of structural surfaces.



IRT+HD Visual Technology

By completing our training in IRT and HD visual Technology, trainees maximize their ability to detect surface and sub-surface defects. Combining both IRT and HD technologies gives inspectors a powerful range of capabilities, otherwise unavailable through classical means. Throughout our extensive operational courses, attendees can learn how to implement our IRT and HD visual technologies, such as DTSS, TSL, TSS, and U3S, to inspect and report with confidence.



Words from the President

During the 20th century, developed nations around the globe invested huge amounts of resources into developing and constructing massive infrastructure projects that helped link their countries and increase their economies' growth to an unprecedented level. In the United States, the Eisenhower Interstate System was an example of one of those mega projects. More than half a century later, the current state of US road and bridge infrastructure – not only the Interstate System – is leaning towards a more structurally deficient state. The majority of structures now need repair, rehabilitation, or replacement. It is becoming a serious issue and is not being properly addressed.

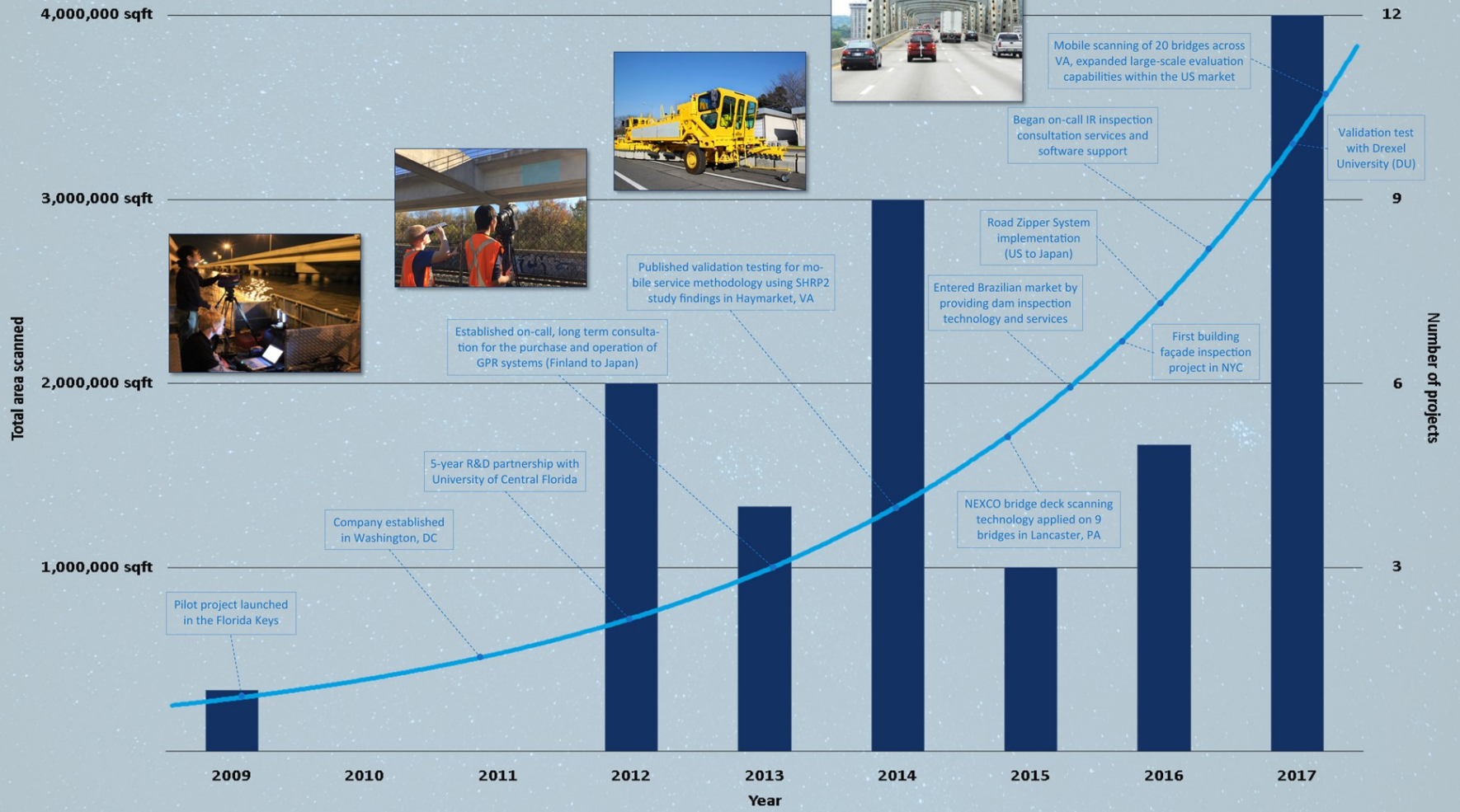
NEXCO's vision is to facilitate the infrastructure inspection and maintenance process by making it more applicable to the 21st century's challenges. We have jointly developed cutting-edge technologies combining infrared thermography and visual imagery to detect deficiencies on concrete or asphalt structures with our partners. Using our systems makes the assessment of infrastructure cost effective in the long run and helps protect the lives of bridge inspectors. Additionally, by avoiding lane closures that cause congestion and increase pollution levels, our solution is environmentally friendly.

We strive to offer the best quality of services with a team composed of individuals with different backgrounds, cultures, and nationalities. Our experience and diversity culminates in the development of innovative solutions for the transportation and infrastructure industries. Our methods have been validated in more than ten states within the US, as well as several countries across the globe. We are transforming the present into a better future, and a better world.

Masato Matsumoto, P.E.
President and C.E.O.



TRANSFORMING THE STRUCTURAL INSPECTION MARKET



Testimonials



"In 2015, SAI Consulting Engineers hired NEXCO West USA to evaluate nine bridges, carrying PA 283 in Lancaster County, Pennsylvania using infrared thermography. NEXCO West USA successfully identified deficiencies within our target structures. The Pennsylvania Department of Transportation received the results. We found that the technology has excellent potential for transportation agencies [...]"

Michael D. Newman, P.E.
Project Manager



"Since 2012, The University of Central Florida (UCF) has been partnering with NEXCO - West USA, Inc. [...] to conduct a successful on-site pilot application using the [...] bridge deck scanning technology on the I-4 bridge decks in Orlando, FL. The pilot project findings were reported to the Florida Department of Transportation (FDOT) District 5, and we found that the technology has excellent potential for transportation agencies to improve [...] and enhance the repair/rehabilitation decision making process."

F. Necati Catbas, PhD, P.E.
Professor of Civil Engineering



"The experience provided us with insight into the challenges of scanning decks of long viaducts and long-span bridges that carry large traffic volumes.

The NEXCO scan emerged as the only feasible tool, as currently available nondestructive tools were clearly observed to be too slow and impractical, causing significant traffic disruption even when a [single] lane is kept open. Therefore the opportunity of exploring a realistic scenario by scanning a real interstate viaduct proved priceless."

Dr. Emin Aktan, PhD
Intelligent Infrastructure Alliance



"Since 2014, Florida's Turnpike has participated in two on site bridge deck scanning projects with NEXCO-West USA, and has successfully identified deficiencies within our target structures. We agree that use of the technology has significant potential for transportation agencies to improve their corridor/network level bridge deck inspection programs [...]"

Aran M. Lessard, P.E.
Structures Maintenance Engineer



Partners





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