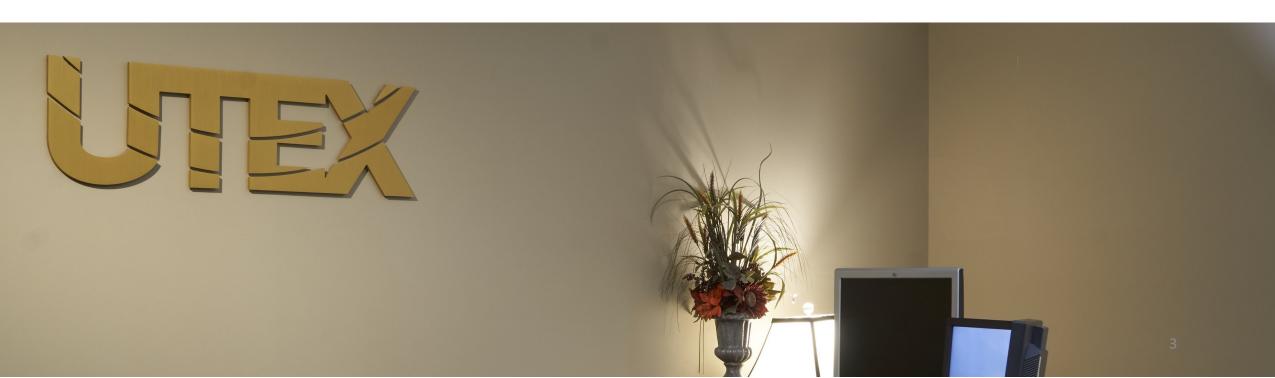# Impact Report

2020

Our Impact on NDE
solving problems

We are curious scientists, engineers and technologists that live to solve problems. Specifically, we love to reduce complexity and eliminate human suffering.

Our InspectionWare software platform helps anyone build less complex NDE inspection systems that are faster, less fatiguing and more repeatable.

Our instrumentation technologies reduce noise and increase dynamic range. Our motion control technologies feel "perfect", making operators much more productive and less stressed.

We have solved big problems for clients in aerospace, nuclear, metals, academic research, power generation, and oil and gas and have been an integral part of the industry since 1992.
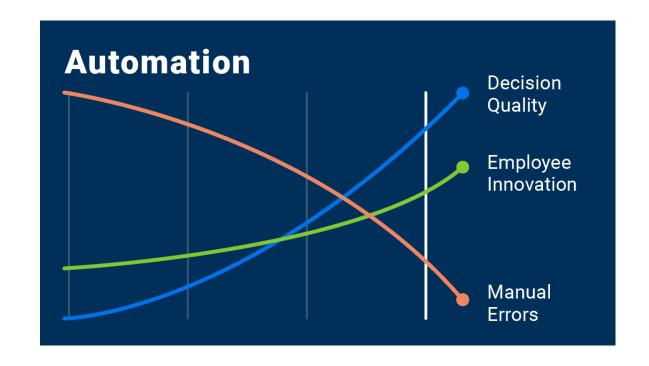
Our Impact on NDE
reducing suffering

Most of NDT still involves a lot of manual labor with the resulting problems of operator fatigue, boredom and inconsistent results. Because the NDT industry is small, investment in world class NDT automation technology is rare. This risks leaving NDT behind many other industries.

UTEX's purpose is to make Nondestructive Testing better in every way by automating the repetitive and making evaluation more consistent.

UTEX faced down this challenge by investing 15 years and most of our resources into creating an automation platform that supports the industry's best technology.

There is a lot to know in order to implement automation well. We are the only factory NDE automation platform built for this purpose. Our experience runs deep.

Automation

Decision Quality

Employee Innovation

Manual Errors

Nobody likes to make mistakes, especially when the work is repetitive and unfulfilling. When employees get involved in automating repetitive work, their engagement goes up and their careers become more meaningful.

Quality Impact

Making Life Better for Users

Employees are motivated when what they do is valued. We create simple user interfaces that help employees become more consistent and reliable. Employees perform better when work is enjoyable and when they are learning. Our software suites include simulations and visualizations that promote understanding and increase competence.

UTEX provides tools that reduce the time needed to analyze data. One example is assisted analysis, which is the best way to increase the accuracy and repeatability of an inspection while reducing the drudgery. Gone are the days of panning around C-scans looking for indications.
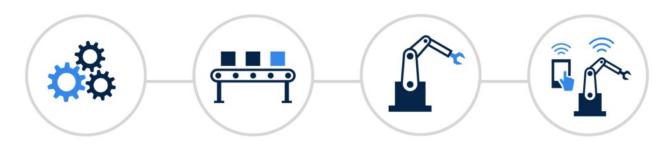
In order to make interfaces easy to use, we bundle our software products in suites by market segment. Operators only see the controls that that are used to perform inspections in their industry sectors such as aerospace, power generation, metals or oil and gas.

Our software suites reduce training costs and minimize the time required to increase employee productivity.

Evolving NDE Towards Industry 4.0

The Four Industrial Revolutions

Industry 1.0
Mechanization and the introduction of steam and water power

Industry 2.0
Mass production assembly lines using electrical power

Industry 3.0
Automated production, computers, IT-systems and robotics

Industry 4.0
The Smart Factory. Autonomous systems, IoT, machine learning

NDE 1.0
Manual Scans
Analog Instruments
No images

NDE 2.0
Mechanized Scanning
C-Scan images
Paper Records

NDE 3.0
Automated C-Scans
3D / Waveforms
Digital Images
Winspect ™

InspectionWare

NDE 4.0
Factory MRP Integration
Full Inspection Automation
Defect Recognition & AI
InspectionWare™

The goal of NDE is to produce better products that are more predictable, more reliable and ultimately safer. That's an obvious benefit, and by itself makes it worthwhile to invest in improving the NDE process.

In order to keep making better, safer products, you need a quality improvement cycle, which depends upon having useful information. NDE 4.0 is a way of thinking about the NDE process as a real-time information input to that process improvement cycle, an integrated feedback loop.

At the moment, most of our clients are just using the traditional defect recognition techniques of looking for clusters in the amplitude and TOF images. That speeds up detection, and helps a human analyst with classification of the indication. AI learns to recognize and categorize flaws in the same way that humans do: these features in the image are bad, these are OK, and these need some additional analysis and some additional corroborating information to make the decision. Developing a competitive AI technology requires that you have a library to train and test the algorithms.

Cost Impact

Improving Inspection Productivity

Productivity is a serious matter. Automation is about saving jobs in our country by being better than those in countries with lower labor costs. Maintaining our standard of living requires automation because quality and price will always influence whether we will be able to keep our customers. There is a new movement towards automation fueled by a desire to increase quality, efficiency, and further refine processes.

Our role has been to lead this movement by collaborating with companies to improve how they perform inspections. Yes, automation is about quality, speed and efficiency, but more importantly it is a vision shared by the best companies.

Making Possibilities Reality
It is now possible to automatically identify the product, configure the instrumentation, size the inspection region, align to the part, perform the inspection, disposition the indications, produce a report and communicate the results to relevant corporate databases.

Many companies specify and buy NDT systems so infrequently that they are at a disadvantage knowing what to ask for.

We created a unique business model that assumes you would benefit from decision making assistance. The same team of scientists and engineers that created InspectionWare are available to help anybody who wants to learn how to specify these modern, fast and repeatable systems.

Our experience supporting a broad range of hardware is available to all of our clients.

We are here to help.
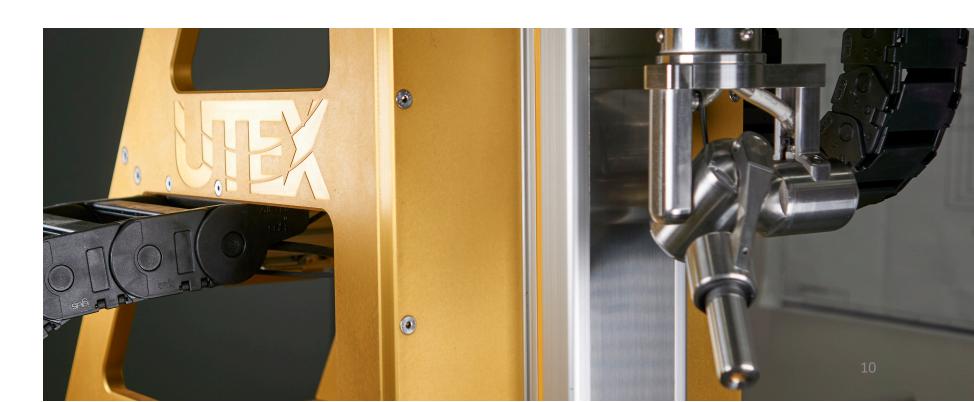
Reusing Assets
upgrading existing systems

Over the past 27 years UTEX has kept hundreds of systems from going to landfill or metal recyclers.

If the bones of a system are still in good shape, a retrofit can save a lot of money. It is also more environmentally sustainable to reuse assets that still have value. Retrofits very often take less time to obtain and execute compared to new systems.

Retrofits to existing scanners remain the most cost-effective way to gain the benefits of inspection automation. We have the experience to help determine if upgrading your system is worthwhile. Refurbished scanners with upgraded software can be every bit as automated and effective as a new system.

You can teach an old dog new tricks after all.

Reusing Assets
delaying when systems become obsolete

When have you heard "That hardware is no long supported."?

We are the solution when older systems are still required but cannot justify a large capital expenditure to keep them running. We live to solve these types of problems and have been building the technology for doing so for almost three decades.

InspectionWare enables legacy instruments to be integrated within a modern inspection system. Reuse may be especially important if these components are part of a qualified inspection. Eventually, when components are truly no longer available, our platform will allow you to keep operating with a more modern alternative. We offer the most choices for your system.

Innovation, responsiveness, and experience allows us to push the industry forward in a thoughtful and productive manner while being mindful of budget constraints and the reality of approved processes.

We are here to help.

Culture and Values

Meaningful Partnerships

Private Label Partners: We supply software under private label to several multinational NDT companies. All of these products are built using InspectionWare with product installers that ensure consistent corporate branding and licensing.

Our ingenuity powers some of the best and most familiar systems in the NDT industry.

Innovators that have developed a novel instrument or NDT technique can immediately get to market with all of the automation benefits that InspectionWare offers. Accelerating the go-to-market process allows for greater ROI for instrument manufacturers. This arrangement can be under private label or under the trusted UTEX InspectionWare brand.

These commercial quality products and NDT techniques can subsequently be delivered and supported by our international network of skilled system integrators.

UTEX can produce products for your company.

Our system integrator partners:

Retrofit and upgrade existing inspection systems: If the inspection system is mechanically sound, a retrofit can be a fast and economical way to gain the benefits of modern instrument technology and software.

Design and deliver new inspection systems: Many UTEX partners are specialists in developing novel systems where technology must be customized to meet a unique production or inspection demand.

Engineer Turnkey systems: UTEX partners can offer complete single-source solutions, without giving up the benefits of multiple vendor flexibility. Using UTEX tools and a selection of 3rd party components, customized solutions can be delivered on a timeline not much longer than it would take for the purchase of off-the-shelf components.

Optimize inspection processes: There may be areas of an inspection process where you can gain efficiency or improve the quality and reliability of the inspection results. We partner with academics and consultants in many countries who like to solve difficult NDE problems as much as we do. We can connect you.

Our Tenets

Our culture nurtures independent thinkers who create highly differentiated products while still allowing themselves to be corrected when wrong.

We have proven that it is possible to have a highly competitive culture while still cooperating fully once we choose a direction.

These tenets have made our success possible:

Differentiation   Do only what others are not doing or are not able to do. Our competitive advantage becomes our customer's competitive advantage.

Dissenting Opinions   Seek to be proven wrong or that there might be a better way. In order to eliminate rework, bad ideas should be killed before they can get implemented.

Helpfulness   Make things better or get out of the way so that others can do so. If we can't help, we will direct you to someone who can.

Consensus   Once all of us decide on a direction, we support each other to make it a success.