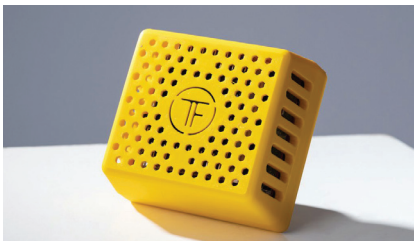
AI DEPLOYMENT PLATFORM



Machine learning models can be a hassle to get into production. Trueflaw has developed the TrueflawBox edge computing platform to deploy its artificial intelligence (AI) models in a way that makes sense for nondestructive evaluation. The TrueflawBox is now open for everyone to deploy their own machine learning models.

This product is for those that have some in-house machine learning development for an NDE application or need a fast and secure way to run models in production, but don't want to start from scratch. The TrueflawBox includes powerful edge AI hardware fully configured to run your ML models and a tailored training workshop to get you started. Users can either write their own deployment code or let Trueflaw help.

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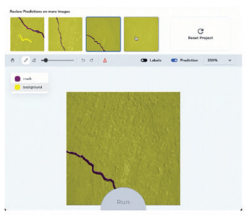
DEEP LEARNING VISUAL INSPECTION



Landing AI announced the launch of LandingEdge, a new deployment application within the company's platform, LandingLens. With LandingEdge, manufacturers can more easily deploy deep learning visual inspection solutions to edge devices on the factory floor to better and more consistently detect product defects.

LandingEdge extends the capability of LandingLens into more manufacturing environments. LandingLens enables teams to build deep learning models. With the new edge capabilities, LandingLens customers will more easily integrate with factory infrastructure to communicate with cameras, apply models to images, and make predictions to inform real-time decision-making on the factory floor. If the factory is connected to the cloud, LandingEdge can update LandingLens with new data to continuously improve deep learning models.

LandingLens has also been enhanced to enable training a deep learning model up to 7× faster than before. By reducing the time it takes to train models, customers can achieve fast and iterative AI processes and optimize model accuracy.

LANDING AI
LANDING.AI

HANDHELD ROTATING BOLT HOLE SCANNER

The new ECS-4 handheld rotating bolt hole scanner from UniWest is very lightweight (7 oz) and has an ergonomic form factor, with the probe exiting at a right angle from the scanner. In addition, the ECS-4 boasts variable speed (125–2250 RPM) and increased torque over UniWest's popular ECS-1 scanner. Three buttons are within easy reach of the user's thumb: null, erase, and on/off.

The ESC-4 scanner utilizes a rotary transformer to couple eddy current signals from the probe to the instrument. Compatible instruments include the UniWest EVi, EddyView® II, EddyView Pro, and EddyView Premium. In addition, the ECS-4 will operate on the NORTEC® 600 and NORTEC 2000. The ECS-4 probe connector is a 4-pin Fischer connector with O-rings. Compatible probes include the following UniWest probe styles: URB, URBA, US-5000, SSB probes; as well as some competitor's probes.

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X-RAY LINE SCAN CAMERA

The X-ray line scan camera C14960-14C can take a high-sensitivity, high-resolution transparent X-ray image of an inspected object transported on a belt conveyor or similar apparatus. Since the content of an object, which is not visible with the naked eye, can be inspected without contact or destruction, this camera is suitable for broad interior X-ray observation, enabling the detection of a foreign body mixed in food, electronic components, and so forth. The C14960 series supports a wide usage, from thin to thick sample inspection.

HAMAMATSU PHOTONICS
HAMAMATSU.COM

WIRE ENCODER

The Phoenix ISL Wire Encoder is now available to order as a stand-alone product. The lightweight Wire Encoder is quick to set up and offers freehand scanning up to 3 m from a single position, without the constraints of a scanning frame. Available with magnetic, vacuum, or clamp mounts, the Wire Encoder is a versatile tool that can be mounted to any inspection surface and enables C-scan inspection in areas with limited access. The Wire Encoder is compatible with the Phoenix C-Clamp, which can hold any probe and wedge combination up to 55 mm wide.

PHOENIX INSPECTIONS SYSTEMS LTD.
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NURTURING GENERATIVE AI: BALANCING INNOVATION AND RESPONSIBILITY

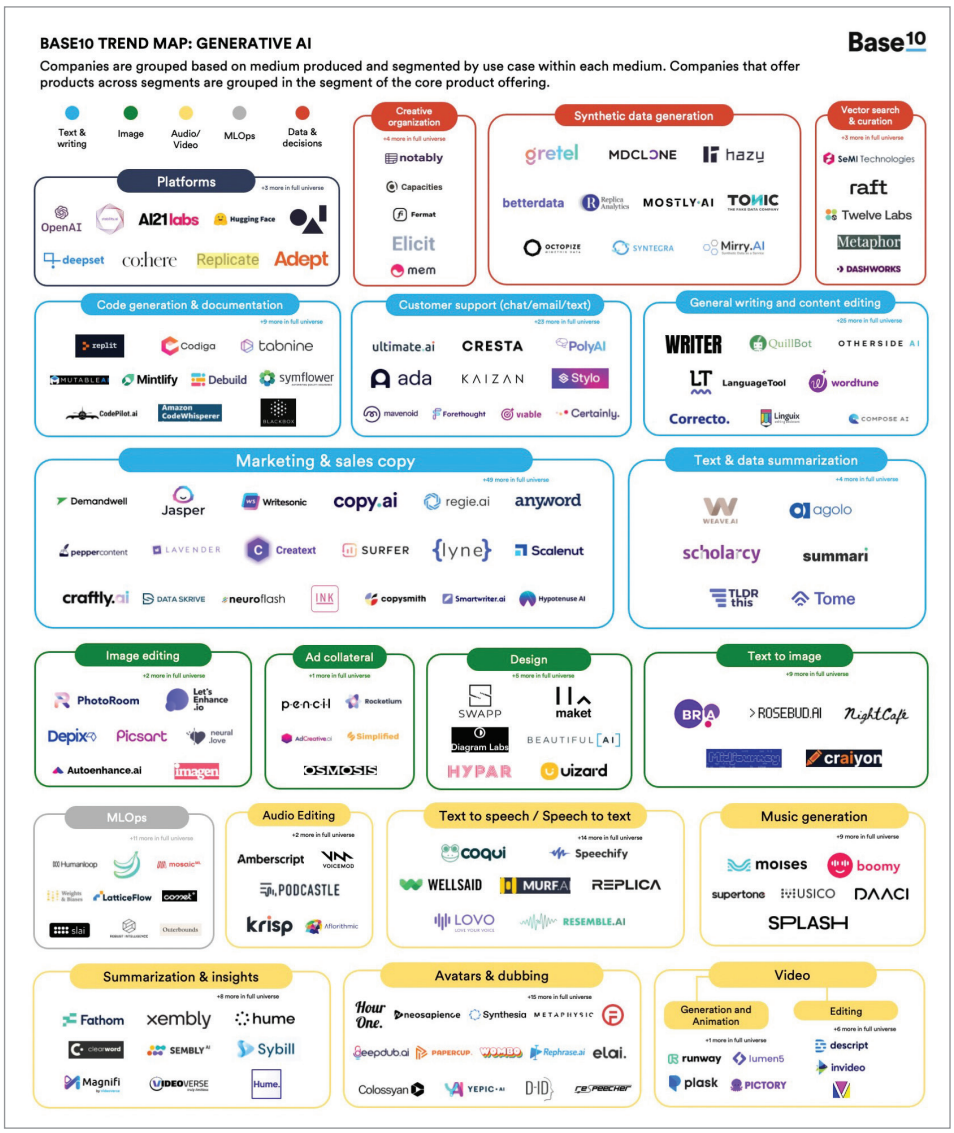
Background

The authors started collaborating with an artificial intelligence (AI) agent (GPT-3) in April 2021. Their early work was published in *Journal of Nondestructive Evaluation* in August 2021[1], followed by couple of briefs in *Materials Evaluation*'s NDE Outlook[2,3]. Recently they began engagement with GPT-4, which has addressed several quirks of its predecessors. There is a spectrum of generative AI tools now accessible spreading across all forms of media–text, audio, video, and very soon 4D experiential. The marketplace war is getting fierce, and so is the need to govern it. The figure[4] shows how the landscape of generative AI is getting busier by the day.

Within the nondestructive evaluation (NDE) sector, AI is already assisting with predictive maintenance, automated quality control, automatic defect recognition, and control of robotics in manufacturing. While these examples highlight the potential benefits of AI integration in industry operations, they also emphasize the need to balance innovation with potential risks and governance issues.

The "Vulnerable World Hypothesis," proposed by Professor Nick Bostrom[5] (Director, Future of Humanity Institute, Oxford University), suggests that there is a significant probability that our world may become highly vulnerable to certain future technologies, which could lead to catastrophic consequences. The scenarios highlight the need for global coordination and safety measures to prevent existential risks. AI risk and safety, when looked at using the hypothesis' framework, can be classified in the following four ways:

- **Type I (Easy Nukes):** Technologies that could be easily weaponized and deployed by individuals or small groups, causing widespread destruction.
- **Type II (Sensitive Innovations):** Beneficial technologies that require strict regulation and control to prevent misuse or accidents.
- **Type III (Gradually Destructive):** Technologies that pose risks that accumulate over time and could lead to long-term harm or degradation of our environment, society, or global stability.
- **Type IV (Unforeseen Risks):** These are unknown risks associated with the development of new technologies that we cannot currently predict or anticipate.



CREDIT: BASE10.VC

This is just a snapshot of the artificial intelligence (AI) tools landscape as captured by Nahigian and Fonseca on 17 November 2022, before the release of ChatGPT. Today, there are over a thousand apps leveraging the power of GPT. The only purpose of this graphic is to illustrate the spread of generative AI, which has a low barrier to entry.