



Edison

*Edison Open AI Orchestrator:*

# AI transformation. Simplified.

*Edison Open AI Orchestrator (AO) enables quick deployment of new applications, easy configuration of workflows and algorithm parameters, and provides the ability to easily experiment, measure, and optimize results.*



# Can productivity software actually create more work?

In a word, yes.

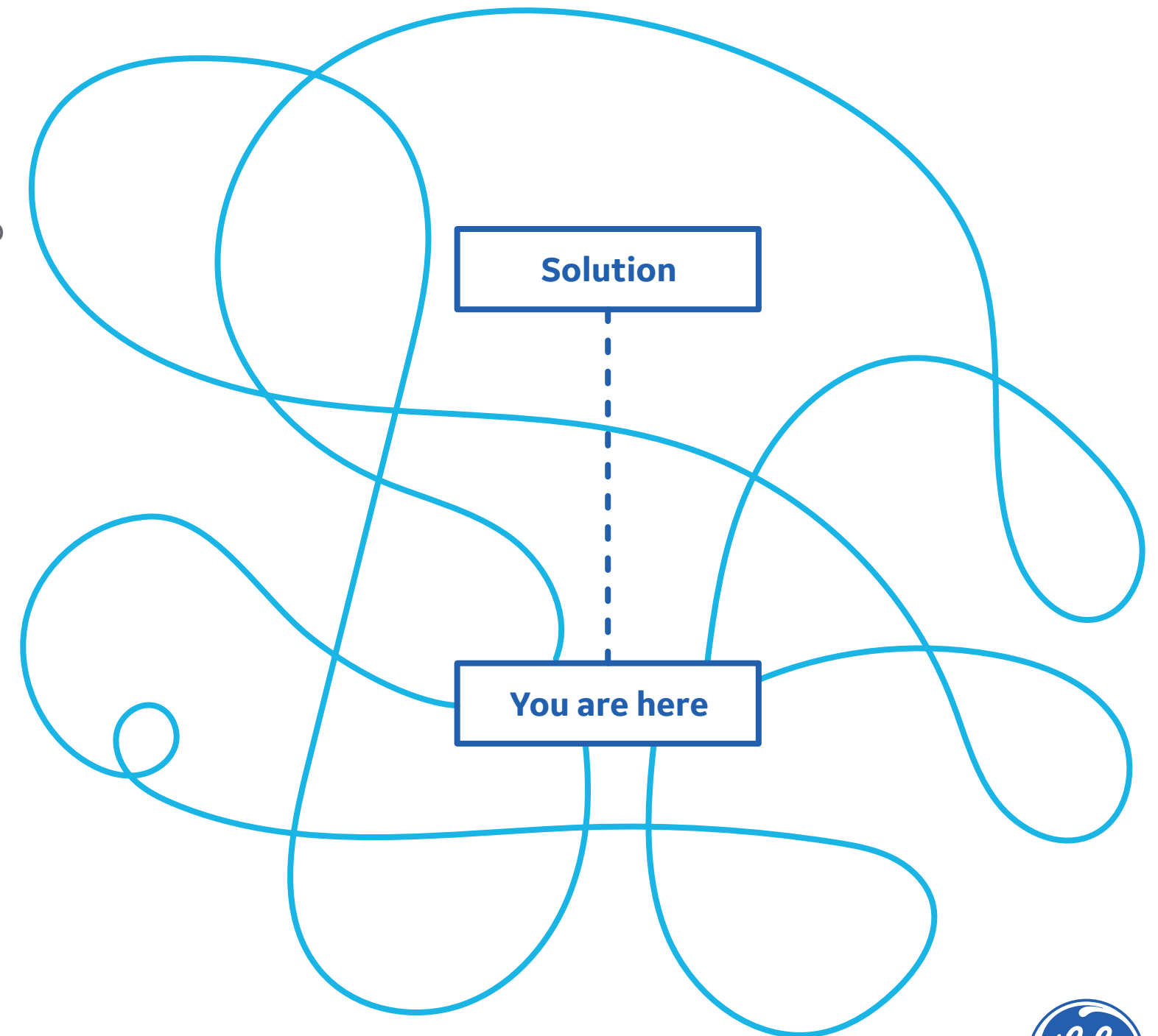
While many applications show promise to alleviate work and enable clinicians, they can actually cause even more work and frustration if they require additional training, time on the computer, and can't work together in a cohesive manner.

It's no surprise that numerous studies have reported that an increasing workload is one of the leading sources of job related stress leading to burnout.<sup>1-5</sup>

In radiology, not only have workloads steadily increased over the last 20 years due to the increased utilization of imaging, they're getting more complicated. This has led to 54% of radiologists reporting the feeling of being burned out or depressed.<sup>6</sup>

And then there's the added stress of additional computerization of practice.<sup>6</sup> The irony here is that many technologies are designed to help productivity, they actually can be adding work. In fact, over half of institutions report being flat-out terrible at getting personnel to train and adopt.<sup>7</sup> Thus, in attempting to alleviate radiologist burnout, adding more productivity tools may actually be adding to radiologist burnout level.

Productivity solutions should be implemented for the end result of actually alleviating work – not adding to it.





# Get the solution: Edison Open AI Orchestrator.

## **Introducing Clinical Workflow Orchestrator.**

Open AI Orchestrator is part of GE Healthcare's Edison family, and is designed to seamlessly integrate clinical applications into the radiology reading workflow.

It efficiently manages these applications along with their execution and dataflows by orchestrating the interoperation with various imaging devices, data stores and other information technology systems.

By way of a visual workflow editor, it explicitly documents the implemented care process and required parameters of operation such as confidence or score threshold settings.

By using the PACS interface with which radiologists are currently familiar, OAO processes data received by imaging devices to the PACS, sending it to the appropriate applications. It then gathers the outputs of those applications, processes it, and sends it back to PACS.

- » Efficiently manage and automate AI and non-AI enabled processes encompassing imaging workflows
- » Easily manage required parameters of operation and notification such as setting confidence or score thresholds
- » Coordinate and enable notification and alerting mechanisms for multiple personae
- » Provide a way to instrument and subsequently learn and improve the workflow process





# Efficient. Improved. Familiar.

Let's be honest. Learning new software can be tedious – and one of the top reasons for personnel frustration. At GE, we believe solutions should work with you, not against.

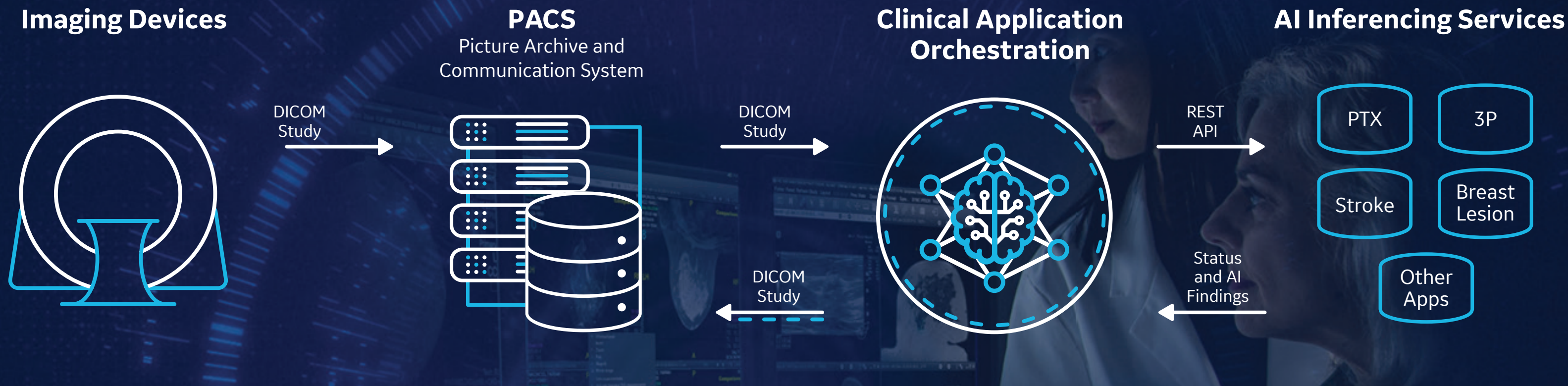
That's why Edison OAO, while closely integrated with GE Healthcare's Centricity™ PACS, Universal Viewer and vendor neutral archive, has been also designed to be vendor agnostic. It can support non-GE Healthcare clinical applications as well as third party imaging storage platforms.

Additionally, Edison OAO allows imaging departments to:

- » Efficiently automate AI and non-AI enabled processes encompassing imaging workflows
- » Easily manage the required parameters of operation such as setting confidence or score thresholds
- » Coordinate and enable notification and alerting mechanisms for multiple personae
- » Provide a way to instrument and subsequently learn and improve the workflow process







## How does Edison Open AI Orchestrator Work?

While it may seem instantaneous, OAO actually deploys a disciplined approach to providing you the best insights for your patients.

1. Image is acquired on imaging device.
2. DICOM study is sent to PACS.
3. PACS sends the DICOM study to Edison OAO.
4. Using rules incorporated into the defined workflows, Edison OAO automatically identifies an image or image series generated by a scanner that correspond to one or more clinical application designated for a designated anatomical body part, order indication, disease process or other specified criteria.
5. The orchestration system then routes the relevant images and other necessary data from a PACS or archive to these applicable clinical applications which may be hosted on-premises or in a private cloud.
6. The third-party algorithm processes information, and sends status and AI findings back to Edison OAO.
7. Edison OAO collapses DICOM study with AI finding and status, sending it back to PACS.
8. Finding results can be used to triage and prioritize exam worklists as well as provide decision support in the radiologists' exam reviews.





# The power and freedom clinicians need.

As powerful as these new AI-based tools are, they are not replacing the radiologist. They are providing decision support to enable radiologists and other clinicians to provide the right diagnosis for the right patient at the right time. As they operate in the workflows, they will still need to be monitored and adjusted by humans. Radiologists will be assessing and guiding the clinical relevancy effectiveness of these tools for the foreseeable future.

To assist in assessment and optimization by clinicians vs. IT personnel, Edison CWO provides comprehensive administration interfaces in addition to a visual workflow editor, facilitating easy management of multiple AI solutions from any number of vendors. That means personnel can understand and build trust with AI algorithms before committing to large scale deployment. It can also help reduce the complexity of multiple systems and algorithms working together that could leading to error and risk if implemented incorrectly.





# Elevating radiology.



See.

**From...**

Confusing workflow scripts that aren't easily viewed, understood, or edited.



**To...**

Confidence using visual workflow editor – enabling logic to be explicit and easily edited. Also, documentation of the implemented care process and required parameters of operations, such as confidence of score threshold settings.



Decide.

Ambiguity over which clinical applications should be used in a given care scenario and priority.



Clarity using clinical rules to identify type of image and determination of appropriate action – considering indication, disease process, or other criteria.



Connect.

Uncertainty over how to manage a growing number and diversity of clinical applications across the enterprise.



Assurance with routing relevant images from PACS to appropriate clinical applications, hosted either on premises or private cloud.



Inform.

Questions over knowing how to prioritize exams at a given time, and how best to provide prompt and timely care.



Knowledge is returned back to the imaging workflow which can be used to triage and prioritize exam worklists as well as alert care team members to provide timely decision support.





# Imagine and Transform.

As previously mentioned, today's organizations must balance the ongoing personnel challenges with and operational issues. Edison OAO and GE Healthcare's professional services enable organizations to leverage AI-based clinical applications with proper tools and consultative guidance, meaning seamless deployment and optimization of existing or re-imagined workflows.

*Introducing Open AI Orchestrator (OAO), designed to seamlessly integrate clinical applications into the radiology reading workflow.*

Edison Open AI Orchestrator provides a flexible, unified solution to allow organizations to quickly deploy AI based clinical algorithms and optimize their workflow processes in support of increased productivity and diagnostic confidence.





# Powerful AI backed by first-in-class service.

It's no secret that there are numerous AI companies from which to choose – and selecting a vendor for your AI needs requires significant consideration.

At GE Healthcare, we understand the fundamental importance of functionality. We also know you need to think about the future, and how your investment will be supported. This includes:

- » Seamless integration with existing imaging equipment
- » Optimization for existing Centricity™ PACS
- » Compatibility with third-party vendors
- » World-class service and support
- » Rich history and company stability
- » Ability to maximize existing GE Healthcare investments

In addition, GE Healthcare's team of workflow and application specialists have decades of experience working with imaging organizations to ensure they maximize their investment in new applications. This is a comprehensive pre- and post-implementation engagement that encompasses not just automating current workflows, but also assisting customers to re-imagine their workflows in support of achieving their organizational KPIs.

*The bottom line? Only GE Healthcare can provide the level of service you need to help you understand how to best utilize your AI capabilities.*

We'll even show you how to map and optimize your workflows.

And that's the GE difference.

## WHAT IS THE EDISON PLATFORM?

*OAO is part of GE's intelligence platform designed to help you achieve greater efficiency, improve patient outcomes and increase access to care.*

*Embedded within existing workflows, Edison applications can integrate and assimilate data from disparate sources, and apply analytics or advanced algorithms to generate clinical, operational and financial insights.*

*Edison solutions can be securely deployed via Cloud, Edison HealthLink, or directly onto smart devices.*







GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter – great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

## Imagination at work

<sup>1</sup> Magnavita N, Fileni A, Magnavita G, et al. Work stress in radiologists. A pilot study. Radiology Med. 2008; 113:329–346.

<sup>2</sup> Graham J, Ramirez AJ, Field S, et al. Job stress and satisfaction among clinical radiologists. Clin Radiology 2000; 55:182–185

<sup>3</sup> Chew FS, Mulcahy MJ, Porrino JA, et al. Prevalence of burnout among musculoskeletal radiologists. Skeletal Radiology 2017; 46:497–506.

<sup>4</sup> Harolds JA, Parikh JR, Bluth EI, et al. Burnout of radiologists: frequency, risk factors, and remedies: a report of the ACR commission on human resources. J Am Coll Radiology 2016; 13:411–416.

<sup>5</sup> Nicola R, McNeeley MF, Bhargava P. Burnout in radiology. Current Problems in Diagnostic Radiology, 2015; 44:389–390.

<sup>6</sup> Medscape National Physician Burnout, Depression & Suicide Report 2019, Leslie Kane, MA, January 16, 2019

<sup>7</sup> Brian P. Watson, The State of Enterprise Software Adoption, CIO Insight, October 21, 2009.

