

## TREND 1:

# DARQ POWER

## Understanding the DNA of DARQ

### **New technologies are catalysts for change, offering extraordinary new capabilities when applied appropriately.**

The next set of emerging technologies—**D**istributed ledger technology (DLT), artificial intelligence (**A**I), extended **r**eality (XR) and **q**uantum computing—can spark a step change that allows businesses to reimagine entire industries.

Years ago, social, mobile, analytics and cloud (SMAC) technologies emerged, allowing businesses to understand their partners and consumers at unprecedented depth. Healthcare enterprises are adopting SMAC as part of their digital transformations, but they have not come as far in adoption maturity as other industries. The adoption of SMAC in healthcare also varies by industry sector. Payers have embraced SMAC to a greater degree than providers over the past decade. A majority of providers are just beginning the journey as they are in early stages of their digital transformations.

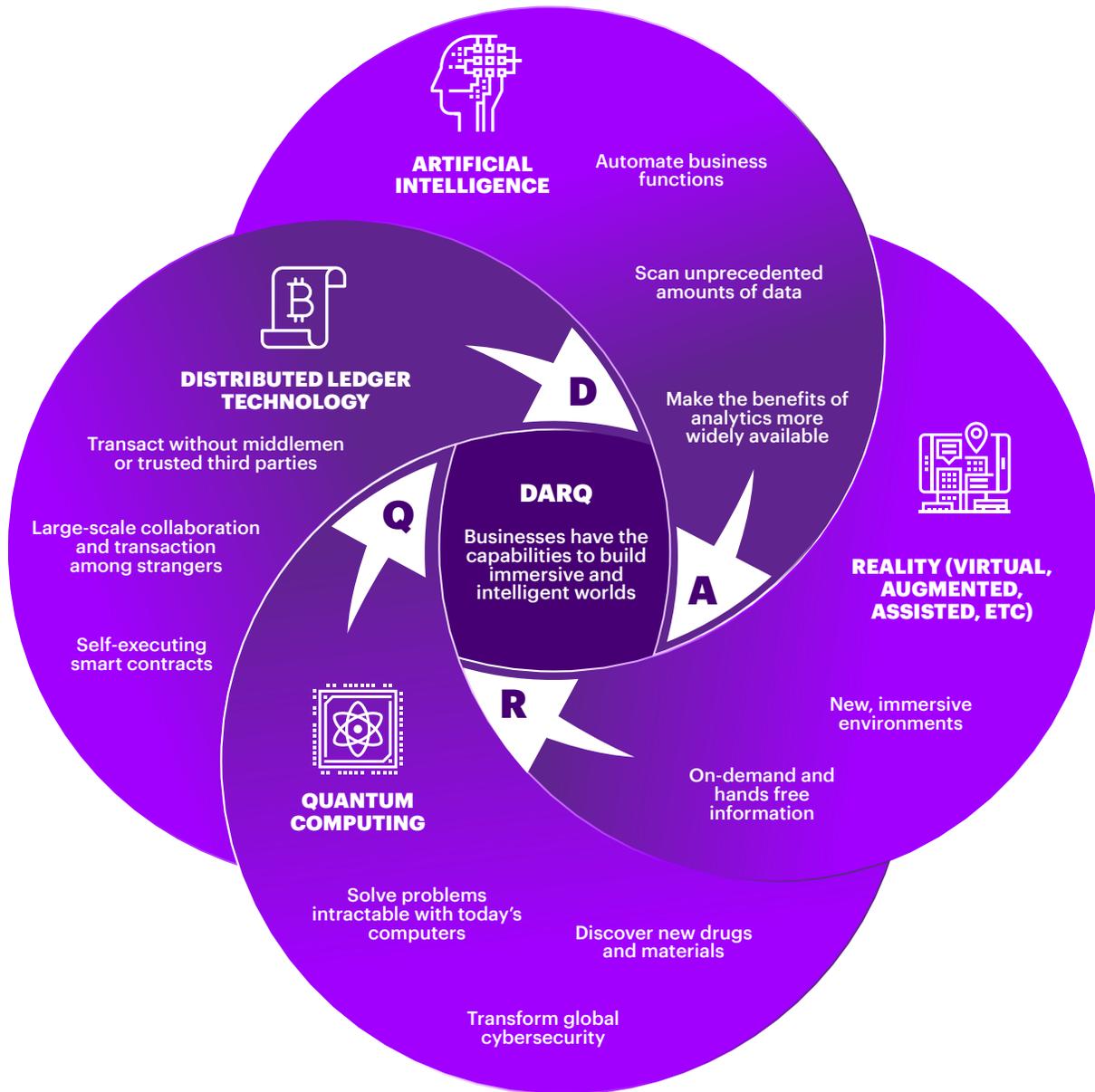
**Trend 1: DARQ Power**

The imperative has become stronger for healthcare organizations to adopt technologies that create a digital foundation for the future. Accenture's Disruptability Index, which analyzes disruption across 20 industries, puts healthcare among the most vulnerable to future disruption.<sup>1</sup> Those most vulnerable to disruption are under pressure to scale new technologies. Some are mastering the new as part of their core business while others are experimenting to learn how these technologies can **deliver new sources of value. The most successful healthcare organizations will be those that recognize change is in motion.**<sup>2</sup> While driving the use of SMAC technologies to maturity in their application to healthcare, they will be thinking about—and planning for—the future impact of DARQ technology on their enterprises.



# SEEING INTO THE DARQ

DARQ technologies and some of the capabilities they enable

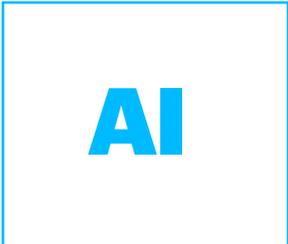


DARQ technologies are poised to become the foundation for next-generation products and services. Healthcare leaders in the DARQ-driven future will be prepared to combine and exploit those competencies as the technologies reach enterprise-level maturity.

Even before DARQ technologies have reached full maturity, healthcare enterprises can see the value on the horizon. Whether lowering the cost of care, improving labor productivity or enabling better experiences for consumers and partners, regardless of training or intent, DARQ potential runs deep. To take advantage of the transformational new capabilities that DARQ technologies will offer, payers and providers must explore the possibilities now:

A blue square icon with the letters 'DLT' in a bold, blue, sans-serif font. A horizontal blue line with a small circle at its end is positioned to the left of the square.

In the future, distributed ledger technology, such as blockchain, will be an important part of healthcare payments and identity management. Healthcare enterprises can reduce waste, save costs and increase quality of care by using DLT to create a trusted set of data so that people can act on the information rather than having to go back to the source of truth to verify its authenticity. DLT shows great promise for qualifying individuals for insurance benefits, identifying patient payment obligations and credentialing providers, rather than clinicians having to go through a similar process across multiple care settings. [The Professional Credentials Exchange](#) (ProCredEx) is a distributed ledger program that cuts—for providers and organizations vetting providers—the time, cost and complexity associated with the credentialing process.<sup>3</sup> The [Synaptic Health Alliance](#) intends to use DLT to create a cooperatively owned provider data exchange to collect and share changes to provider data, starting with demographics.

A blue square icon with the letters 'AI' in a bold, blue, sans-serif font. A horizontal blue line with a small circle at its end is positioned to the left of the square.

When asked to rank which of the DARQ technologies will have the greatest impact on their organization over the next three years, 41% of healthcare executives ranked AI number one. AI has perhaps the greatest number of emerging use cases in healthcare. The constellation of artificial intelligence technologies is already having tremendous impact on labor, a substantial line item in healthcare. AI is used in contact centers, for payment activities, medical chart reviews and it can help patients take part in self-service.

Healthcare organizations are using the full collection of AI technologies to change how we interact with doctors. AI will augment diagnoses—it can already identify diseases based on [facial features](#),<sup>4</sup> retina scans, X-rays and speech—and it can even help patients to self-diagnose before they walk through the doors of the doctor's office.

[Froedtert Health and the Medical College of Wisconsin Health Network](#) partnered with [Buoy](#) to deliver an interactive digital tool that allows users to enter their symptoms and receive—in real time—personalized analysis and recommendations for care options. Buoy uses an algorithm to listen and calculate input, and it gets smarter as more people use the tool.<sup>5</sup>



**XR**

Interestingly, extended reality shows the highest adoption of DARQ technologies with 38% of healthcare organizations having adopted XR across one or more business units. XR allows machines to operate cognitively, as humans do, and it allows people to interact naturally with technology. The technology makes immersive experiences commonplace and it solves for time and distance, making each factor less relevant.

**Cedars-Sinai** is using **XR for pain management**. By using XR to teach patients how to better cope with pain through breathing techniques and positive thinking, they were able to reduce pain by 24% after 10 minutes.<sup>6</sup> **Cleveland Clinic** and **Zygot Medical Education** are **using virtual reality to move clinical anatomy curriculum out of the cadaver lab** and into a virtual environment. Students can use their mobile devices to access precise 3D models of anatomy and connect with peers all over the world.<sup>7</sup>



**QUANTUM**

Healthcare organizations will be making quantum leaps in the future, using the technology to crunch complex data sets, such as DNA data, to enable more personalized medicine and interactions. For instance, quantum tech gurus at Accenture and **1QBit** collaborated with biotechnology innovator **Biogen** to develop a first-of-its-kind **quantum-enabled molecular comparison application** that could significantly improve advanced molecular design to speed up drug discovery for complex neurological conditions such as multiple sclerosis, Alzheimer's, Parkinson's and Lou Gehrig's Disease.

All four DARQ technologies are, or will be, powerful on their own. But as they advance, they will push each other forward further. Already, early pairings reveal game-changing combinatorial effects for healthcare.

89%

of healthcare executives are currently experimenting with one or more DARQ technologies.

68%

of healthcare executives believe the combination of DARQ technologies will have a “transformational” or “extensive” impact on their organization over the next three years.

## AI IMPROVES OUTCOMES

The [Symphony Post-Acute Network incorporated AI and machine learning to improve care for its 80,000 patients](#), using a cloud-based AI engine to drive predictions and recommendations based on its existing patient data.<sup>8</sup> The resulting insights led to [a drop in readmission rates from 21% to less than 19%](#)—a huge reduction in a key success metric in healthcare, at a cost savings of more than \$13,000 per patient.<sup>9</sup>

### Related

[The Intelligent Payer: A Survival Guide](#)

[Intelligent Payer: Health Management Reimagined](#)

[Healthcare: Walking the AI Talk](#)

## Sources

<sup>1</sup>Disruptability Index, Accenture, February 26, 2018; <https://www.accenture.com/us-en/insight-leading-new-disruptability-index>

<sup>2</sup>“Healthcare CSOs Unprepared as Disruption Surges;” Accenture, June 8, 2018; <https://www.accenture.com/us-en/insights/health/healthcare-disruption-surges>

<sup>3</sup>“How ProCredEx is Leveraging Blockchain to Speed up Credentialing;” MobiHealth News; December 13, 2018; <https://www.mobihealthnews.com/content/how-procredex-leveraging-blockchain-speed-credentialing>

<sup>4</sup>“This AI Identifies Genetic Disorders by Looking at Face Shape;” Futurism; January 8, 2019; <https://futurism.com/genetic-disorders-face-shape-app>

<sup>5</sup>“Froedtert & MCW Health Network Introduces Online Symptom Checker;” Froedtert website; March 9, 2018; <https://www.froedtert.com/news/froedtert-mcw-health-network-introduces-online-symptom-checker>

<sup>6</sup>“VR in Healthcare is Changing the Patient Care Game;” SearchHealthIT, January 2019; <https://searchhealthit.techtarget.com/feature/VR-in-healthcare-is-changing-the-patient-care-game>

<sup>7</sup>“Cleveland Clinic Creates E-Anatomy with Virtual Reality;” Cleveland Clinic news release, August 23, 2018; <https://newsroom.clevelandclinic.org/2018/08/23/cleveland-clinic-creates-e-anatomy-with-virtual-reality/>

<sup>8</sup>“New AI Tools Make BI Smarter — and More Useful;” CIO, April 18, 2018; <https://www.cio.com/article/3268965/business-intelligence/new-ai-tools-make-bi-smarter-and-more-useful.html>

<sup>9</sup>“State of Artificial Intelligence for Enterprises;” Teradata, October 11, 2017; [http://assets.teradata.com/resourceCenter/downloads/AnalystReports/Teradata\\_Report\\_AI.pdf](http://assets.teradata.com/resourceCenter/downloads/AnalystReports/Teradata_Report_AI.pdf)

## For more information:



**KAVEH SAFAVI, M.D., J.D.**

kaveh.t.safavi@accenture.com



**BRIAN KALIS**

brian.p.kalis@accenture.com



**ANDREW THOMPSON**

andrew.j.thompson@accenture.com

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Accenture conducted a global survey of thousands of business and IT executives to understand their perspectives on the impact of technology on their organizations, and to identify their priority technology investments over the next few years. More than 6,600 executives from 27 countries responded to the survey, including 221 US and Canadian healthcare executives. The survey was fielded from October 2018 through December 2018.

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