

Discovering new possibilities with SAS[®] Viya[®] on Microsoft Azure

Hackathon teams use powerful analytics to solve real-world problems



ABOUT THIS E-BOOK

Organizations need to quickly solve complex problems and make decisions. That's exactly what SAS Viya on Microsoft Azure was designed to do. You get powerful, easy to use analytics that incorporates open source and SAS algorithms on a scalable, easy to deploy environment.

To showcase this new technology, SAS and Intel recently hosted [a hackathon](#) in the Europe, Middle East and Africa region. The participating teams were given a month to solve real-world problems related to the [United Nations Sustainable Development Goals](#).

All projects used advanced analytics powered by SAS Viya in tandem with a variety of open source tools running on Azure environments provided and managed by SAS Partner Core Compete.

In this e-book, you'll learn more about the technology behind the hackathon - and see the innovative solutions developed by our hackathon teams.

A special thank you to our hackathon event sponsor, Intel. SAS and Intel collaborate at a deep level across hardware, software, applications and data to give our users lightning fast insights. Together, we're ensuring that analytics users have near instant access to the insights they need to be smarter and more decisive, no matter how much data is required or where it's found.



Read more
The technology

THE TECHNOLOGY POWERING THE HACKATHON

Microsoft Azure was the cloud platform for the project, and each team used its own workstations to access the environment through secure VPN. All teams had full access to SAS Viya and a variety of open source tools, including R and Python. Several user interfaces were also available, including Jupyter notebook and SAS Viya visual interfaces.

To support the hackathon, SAS Partner Core Compete provided a full suite of services to all 25 participating teams, including:

- Rapid, automated provisioning of SAS Viya hosted on Microsoft Azure.
- Onboarding and supporting the hackathon teams in the SAS Viya environment.
- Managing the environments during the hackathon for a seamless experience.

"Our extensive knowledge of SAS and SAS Viya, as well as our proven track record of deploying and managing sophisticated SAS analytics workloads on cloud platforms like Azure, helped us be an effective partner to SAS and all the participants."

Sunil Adlakha, Partner, Core Compete



USING AI AND COMPUTER VISION TO BOOST DECLINING BEE POPULATION

amesto
NextBridge

CHALLENGE

Bees are responsible for pollination of nearly 75% of all plant species directly used for human food. But bee colonies worldwide are declining, which harms food production and supply.

SOLUTION

The hackathon team from SAS Partner Amesto NextBridge developed a system to automatically detect, decode and map bee movements in real time using SAS Viya on Microsoft Azure. The result, displayed on a graphical interface, allows beekeepers to find the best place for hives to thrive.

> Project details



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GETTING HUMANITARIAN AID TO REFUGEES



CHALLENGE

Because of poor supply management at refugee camps, \$1.3 billion of humanitarian aid is wasted each year. As a result, an estimated 1.88 million children, women and men per year don't get the essential supplies needed to keep them safe and in good health.

SOLUTION

The hackathon team from SAS Partner Notilyze used machine learning to analyze satellite images of refugee camps to automate the counting of tents and create better estimates of refugee populations for more effective use of resources.

> Project details



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OPTIMIZING ROUTES TO LOWER CARBON EMISSIONS



CHALLENGE

Transporting electric and electronic equipment waste in Sweden releases 3,500 tons of CO₂ emissions per year, contributing to climate change and harming the environment.

SOLUTION

The team from SAS Partner Sigma Technology used SAS Viya on Microsoft Azure to optimize transportation routes, lowering annual carbon emissions by 836 tons and fuel consumption by 329,000 liters.

> Project details



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AUTOMATED AUDITING OF SUSTAINABILITY REPORTS

CARVE

CHALLENGE

When major credit institutions place their investments, they have the opportunity to positively influence society by investing in organizations that prioritize sustainability. But auditing thousands of sustainability reports to support investment screening and monitoring is an arduous, time-consuming task.

SOLUTION

The hackathon team from SAS Partner Carve used robotic process automation, elastic search, text mining and machine learning to create a score for thousands of investment opportunities.

> Project details



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WHAT'S NEXT?

These are stories about innovative solutions with a potentially global impact. But they're also remarkable for how fast they came together. These teams went from data to insight in less than one month in every case. How? By combining bright, creative minds with powerful new technology: SAS Viya on Microsoft Azure.

We hope these stories inspire you. Think about what you could accomplish if you had the right cloud analytics platform.

- What if your organization could do more with streaming data?
- What if you could improve existing processes for demand planning or resource allocation?
- What if you could automate repetitive tasks and free your people to explore new opportunities?

YOU CAN.
WITH SAS VIYA ON
MICROSOFT AZURE.



sas.com/microsoft

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How can SAS inspire you? These stories are just the beginning – explore what
SAS Viya on Microsoft Azure could achieve for your business.
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