

# AI at Work

Practical AI powered by SAS

ITAPA 2018, Dalibor Šrámek

SAS Fraud Solutions anticipated to save more than **\$40,000,000** annually for one country's central tax authority



An intelligence agency uses SAS for Insider Threat to detect potential threats before sensitive information leaves the agency and harms National Security



A European infrastructure agency is currently monitoring **15,000** sensors on bridge, tunnels, and waterways in real-time using SAS Analytics for IoT to optimize use and keep citizens safe



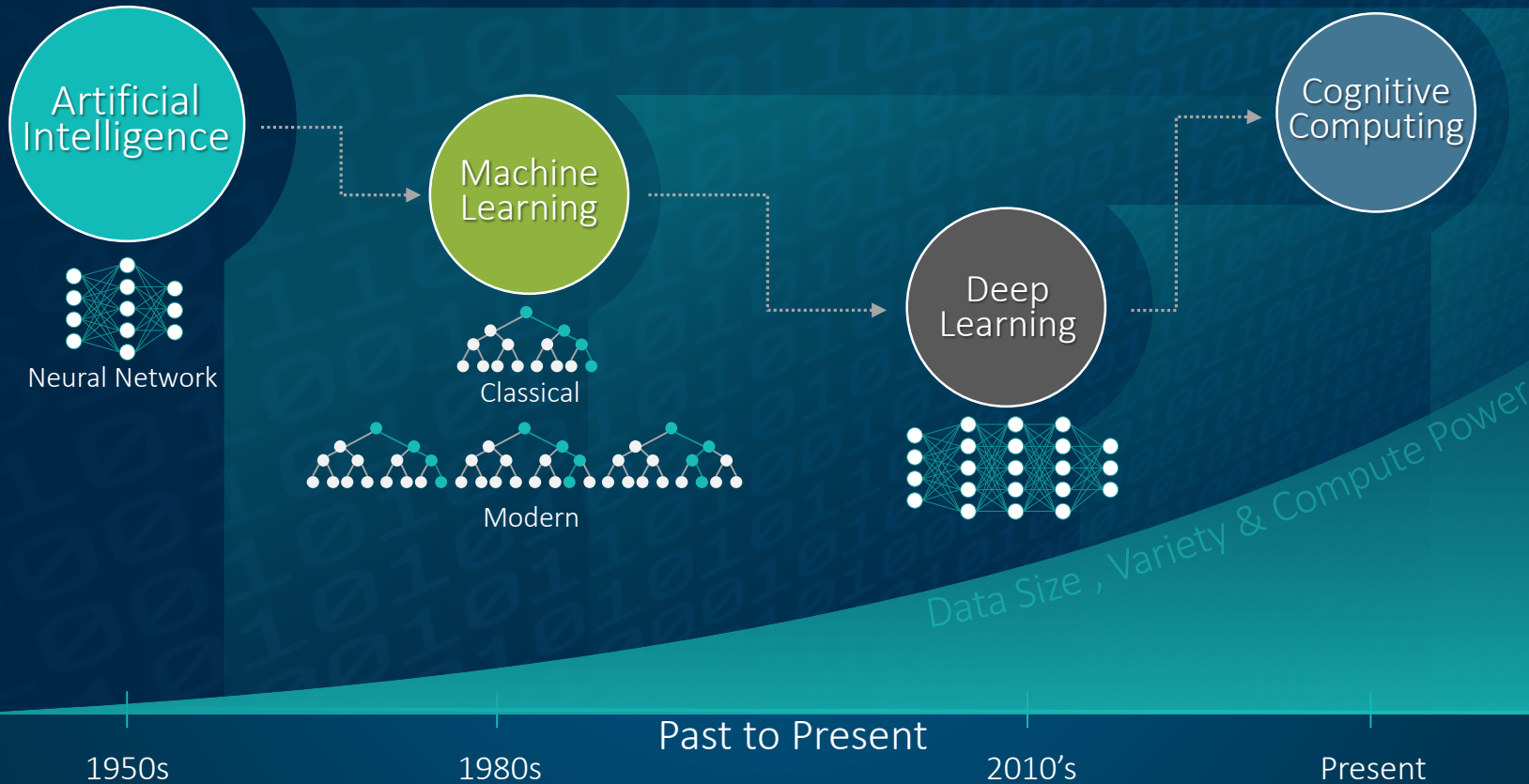
SAS Criminal Justice solutions save one U.S. state **\$12,000,000** annually, and help protect law **30,000** enforcement officers, judges, and prosecutors by providing an integrated view of an offender.

Thanks to SAS EVAAS, a county in a U.S. state is seeing an increase in student passing rates in reading, math, and high school subject tests in **97%** of their 120 schools.

Using SAS, a government Health Information Exchange can now share vital medical information electronically among **70,000** providers.



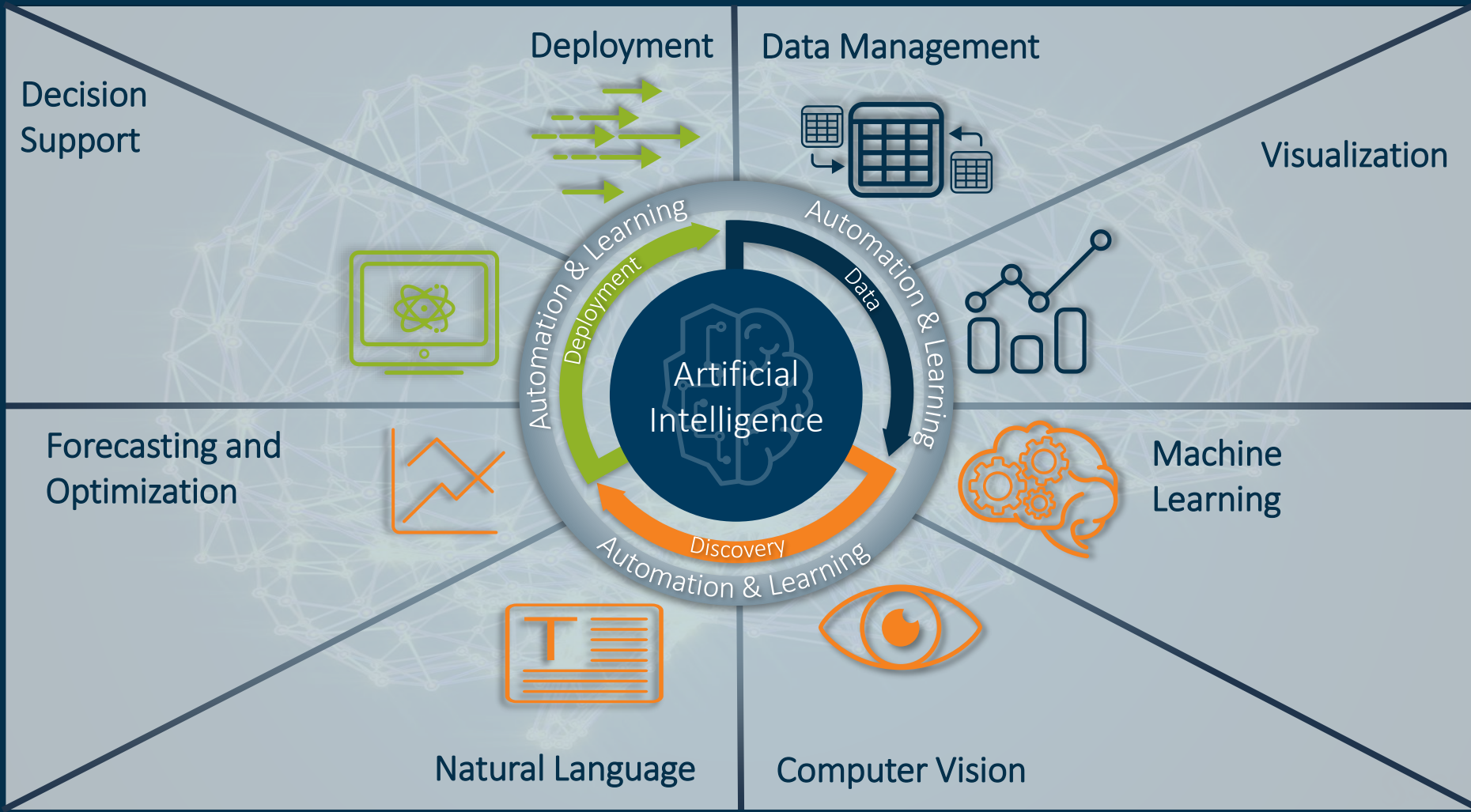
# Evolution





# Our Approach

Turn insights into action by embedding  
AI within the SAS Platform



Decision Support

Deployment

Data Management

Visualization

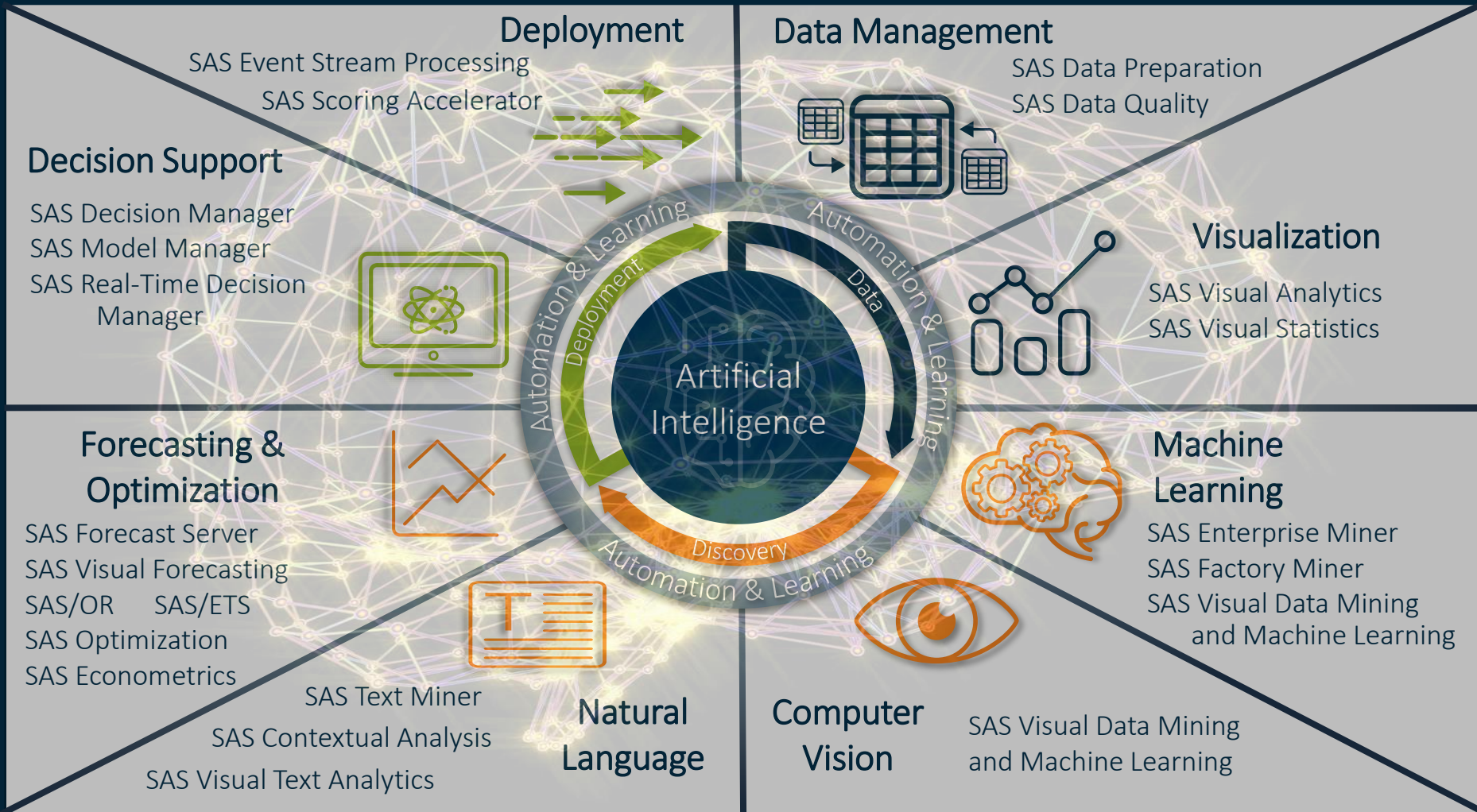
Forecasting and Optimization

Artificial Intelligence

Machine Learning

Natural Language

Computer Vision



To Catch a Tax Cheat

sas

# Irish Tax and Customs

Irish Tax and Customs is comprised of 70 Revenue offices—distributed throughout the country—to fairly and efficiently collect taxes and duties, and to implement customs controls.



## Key Challenges

- Performing more effectively despite fewer resources.
- Dealing with ever-increasing risks.
- Finding an affordable analytics solution—with predictive techniques—to reduce fraud, error and waste.

## How SAS® supported the process



## Results

- Irish Tax and Customs is using SAS—along with traditional fraud detection methods—to reduce fraud and ultimately reduce costs to Irish taxpayers.
- SAS solutions for Fraud & Improper Payments provide a cost-effective way to predict and prevent fraud.
- Predictive analytics are being applied throughout Irish Tax and Customs—for customer segmentation, risk analyses, large scale surveys, evidence-based decision support, social network analysis and real-time risk.

Powered by

SAS® Advanced Analytics

“Ultimately, it is the taxpayers and citizens who will benefit the most if the public sector adopts data mining as part of its day-to-day business. So if analytics can help to reduce fraud, error and waste, then the taxpayers deserve nothing less.”

Duncan Cleary

Senior Statistician in Revenue





# Highway Operator

The company, whose principal stakeholder is a city government, operates and maintains highways—as well as acting as a road construction company.



## Key Challenges

- Enhancing quality of life by providing a safe and sustainable highway infrastructure.
- Generating insights from data collected via embedded highway sensor devices.
- Improving management of highway concessions.
- Forecasting traffic volume by highway, direction, lane and time.

## How SAS® supported the process



### Results

- With SAS® advanced analytic solutions on or enabled by SAS® Viya®, the company can:
  - Turn granular sensor data into predictive metrics that guide future road construction and enhancements
  - Combine sensor data with climate data to determine probability of accidents.
  - Create insights about the average speed for each highway—according to month and hour.
  - Forecast the percentage of light vs. heavy vehicles circulating the highways at specific times.

Powered by

SAS® Advanced Analytics on SAS® Viya®

# World Wildlife Fund

The World Wildlife Fund (WWF) is a global conservation organization that works to protect nature and reduce humanity's footprint on the environment.



## Key Challenges

- Find the best way to market to different donors based on their preferred type of communication.
- Keep costs under control, as money wasted on ineffective marketing efforts could affect its mission.

## How SAS® supported the process



## Results

- Improved donations for individual mailings by 25 percent by optimizing individual campaigns.
- Increased net income while mailing 500,000 fewer pieces of mail.
- Allows the organization to pinpoint the contact method – catalog, phone call, email, etc. – that resonates with each donor as well as the ideal frequency, content and theme to use for each donor.
- Minimized duplicate mailings and other inefficiencies that could prove costly over time.
- Saved significant annual fees by no longer needing the services of an external consulting firm.

Powered by

SAS® Analytics & Data Management

“Overall, we’ve found that by communicating with our members individually, understanding the cost structure and making sure we optimize all of our marketing efforts, we can raise the same amount of money for our conservation mission with much less expense.”

## Mac Mirabile

Director of Strategic and  
Financial Analysis



