

# Cipher Certified: How to use ML to create your own patent landscape

Sebastian Muller-Borges, Head of Cipher Certified

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# Agenda

**01 Cipher:** Who are we?

**02 Certified:** Empowering users

**03 Classifiers:** Our ML approach to identifying patents



**Sebastian Muller-Borges**  
*Head of Cipher Certified*

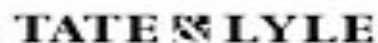
- At Cipher for over 7 years
- Part of the Solutions Team
- Helping clients get the most of Cipher
- Empowering users to build classifiers



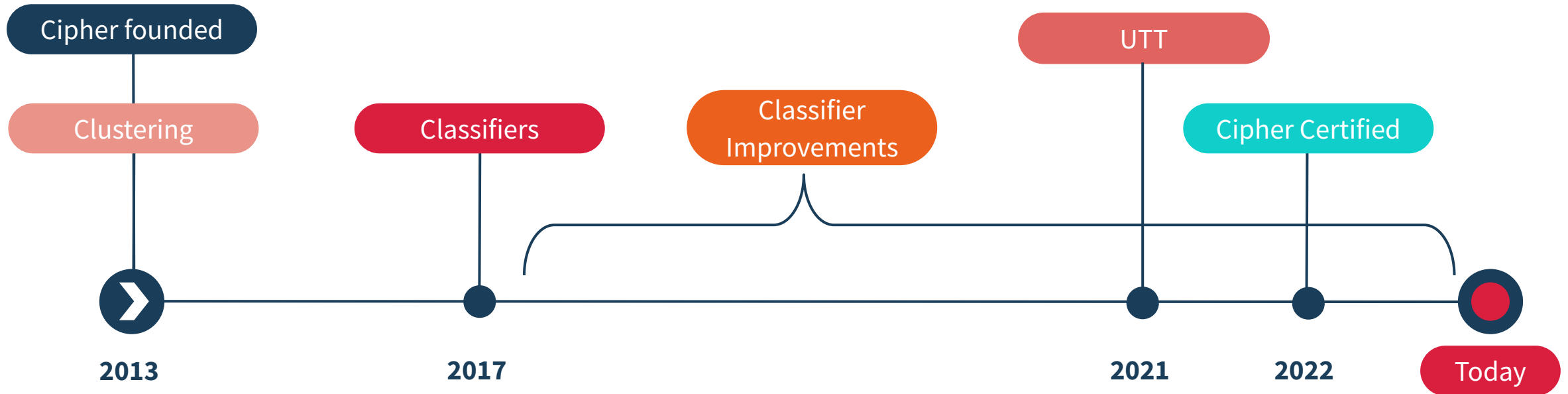
## Cipher's mission

*Our mission is to unleash the strategic value of patents for our customers.  
We do this by enabling patent owners to make rational decisions by  
providing strategic patent intelligence, powered by machine learning.*

# Some of our partners



# The journey to Cipher Certified



## We have learned a lot

9+

Years of experience

9,648

Classifiers built

54

Builders trained

14%

Clients building classifiers

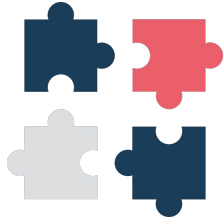


## **Cipher Certified**

*Training Program providing you with the skills required to create your own Classifiers. So you have control of the technology scopes and boundaries to build your view of the patent landscape.*



# Empowering users through Cipher Certified



## **Benefit from Experience**

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*Benefit from 9+ years of pioneering experience working with patent leaders in all industries*



## **Level-up skill set with ML**

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*Use ML to do the heavy lifting and focus on value-adding analyses. Automate, improve and speed up your workflows.*



## **Remove barriers to learning**

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*Certified allows exploration of new technologies without obstacles created by searching*



The **rate of innovation in ML and AI is increasing** at a rate that I think even day-to-day practitioners are struggling to keep up with.

Companies and practitioners who do their best to stay up to date are going to see their value to an organisation and in industry disproportionately outpace the folks who just aren't staying up to speed with the latest technologies.

There's any **one single point of advice** I would give is at least have somebody in your org who's dedicated and committed to **staying up to date on the latest technology and advancements in the AI ML space.**

Jay Yonamine - Product Manager, GEO, Google



*Cipher gave us the ability to understand the technology landscape and was an important foundation layer in creating a strategy for protecting our innovations whilst enabling us to understand how best to deal with others in potential conflict areas.*

Lucy Wojcik, Head of IP, Ocado



## **Classifiers**

*Supervised ML algorithm trained to identify patent families belonging to a user-defined technology scope*

# How is a Classifier built



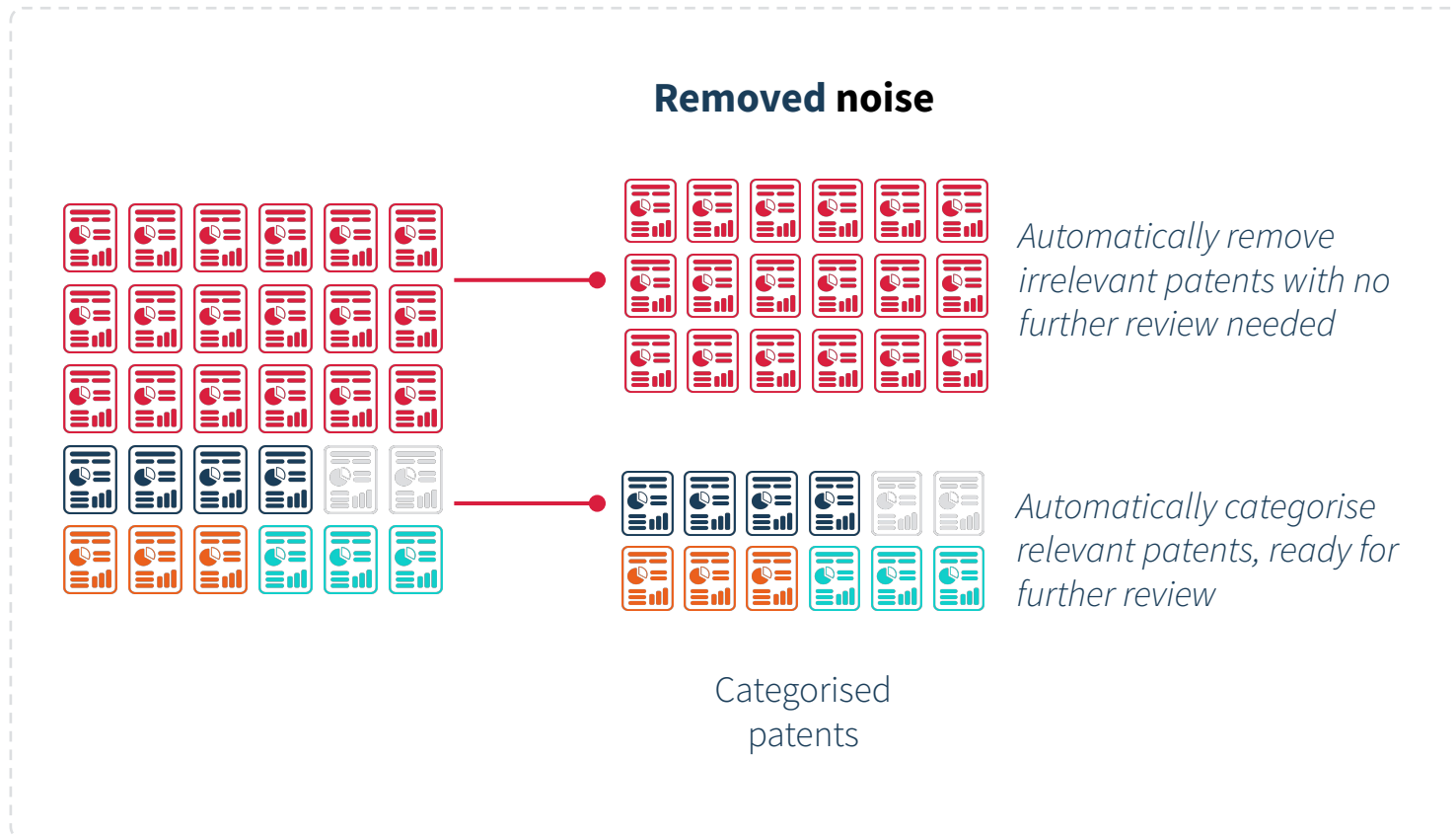
# Using ML to classify data



Global patent data is unstructured and hard to analyse



Classifier Engine

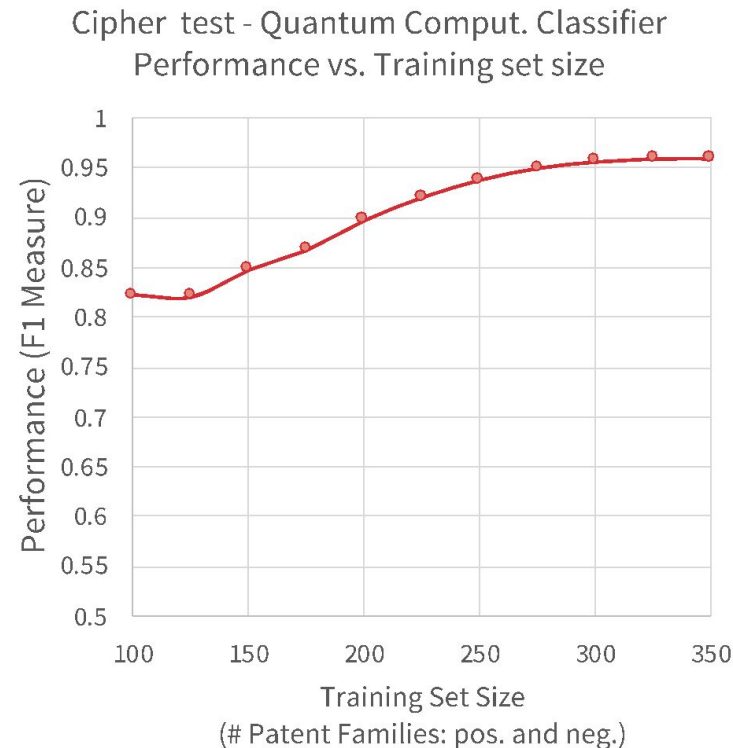


# Independent tests show great performance

Independent tests carried out in 2019 by Tony Trippe, published in World Patent Information and presented at EPO.

Two independent tests (Quantum computing and Cannabinoids) with great results.

Only 100 patents in training set needed for good performance, but more training led to improvements, although with diminishing returns.



Diminishing returns of Training Set Size

Just 100 patent families, yield 0.82 F1

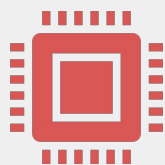
Cipher Classifier Tests – Averages over 200 runs

Test (Tech area)	Precision	Recall	F <sub>1</sub>
Quantum	0.971	0.971	0.971
Cannabinoid	0.977	0.964	0.971

Two tests with similar outcomes

Both tests with strong performance

# Empowering users



## Automate tasks

*Cipher automates recurring, boring, data heavy tasks of analyzing large numbers of patents*



## Benefit from your existing data

*Cipher utilizes the wealth of existing "AI training data" you have stored in spreadsheets*



## Save time for your team

*No bulky implementations, just share your data and let Cipher and the Cipher team do the work*



## Customized to you

*Incorporate your technology / product / divisional breakdown into a Cipher module.*



## Always on

*No need to wait for 3<sup>rd</sup> parties or balance workload, Cipher is always on instant*



## Strategic benchmarking

*Enabling you to see competitors categorized with your classifiers, facilitates new strategic possibilities*



# Benefits over traditional methods



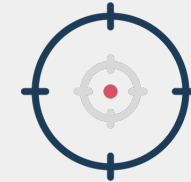
**Not limited to technology search**

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**Learn from data**

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**No need for exact matches**

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**Results ranked by relevance**

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**Review what you missed**

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**Multi-category matching**

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# Applications of classification

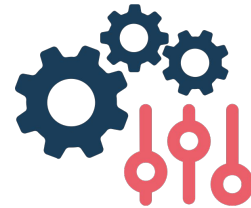
*There are a broad range of strategic questions that require patent to technology mapping on demand*



Benchmarking



Budget Management



Portfolio Optimisation



Competitive Intelligence



Technology Trends



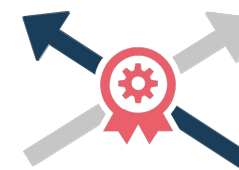
Due Diligence



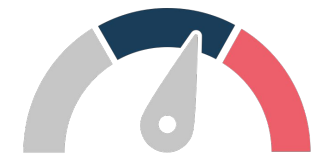
Inbound Assertion



Monetisation



Cross-licensing



Risk Mitigation



**CIPHER**