

AI developments

LES - COPENHAGEN

SEP 11, 2017

TODAY AI can predict
when a customer is ready to buy,
a jet-engine needs servicing or
a person is at risk of a disease.

In the medium term,
will AI change the IP landscape?

It took 10 years to build what some thought was impossible....

The largest and only global case database with 2,7 million cases from 3,200 courts world-wide with a team of 220 people around the world



Trademark
1,667,323 Cases



Design and Models
65,824 Cases



Patent
922,036 Cases



Copyright^{beta}
57,970 Cases



Domain name
76,241 Cases



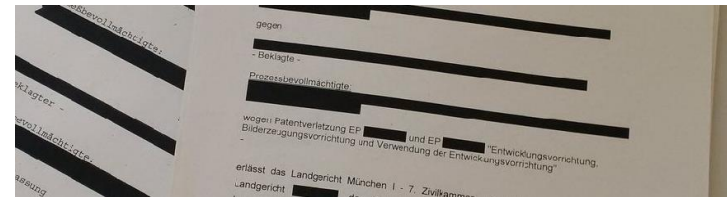
Unfair Competition^{beta}
46,405 Cases

Data is complex, not harmonized and is in different languages...

Books for key historical cases



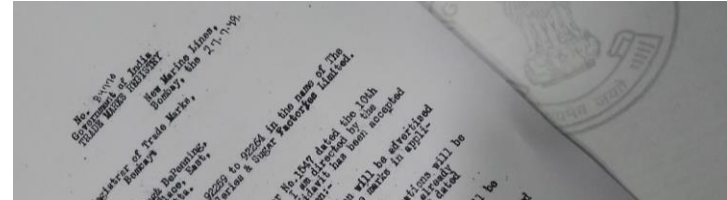
Tedious effort to de-anonymize



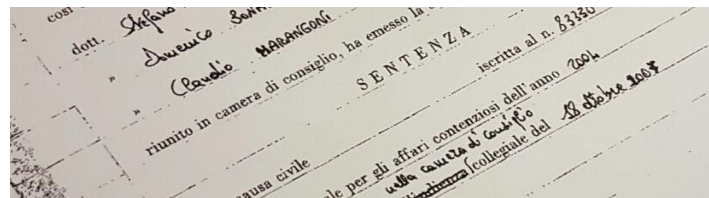
Cupboards full of CDs



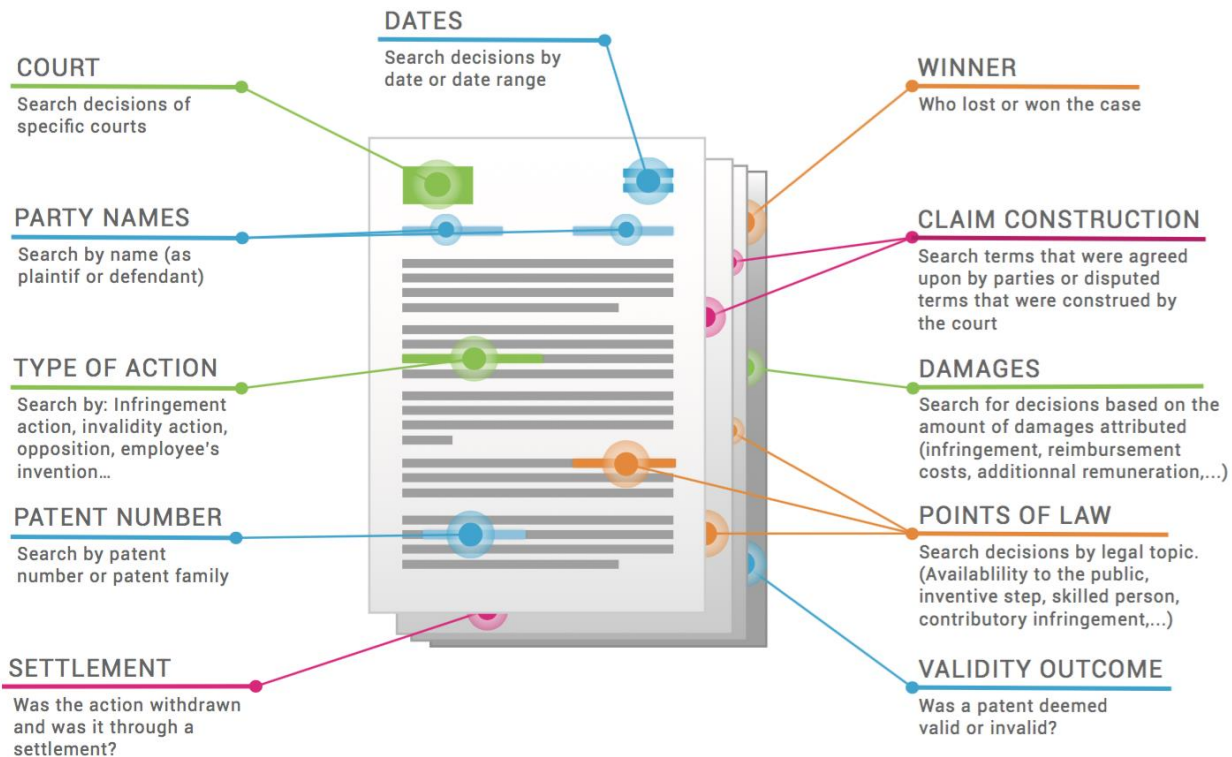
Selecting and scanning IP cases



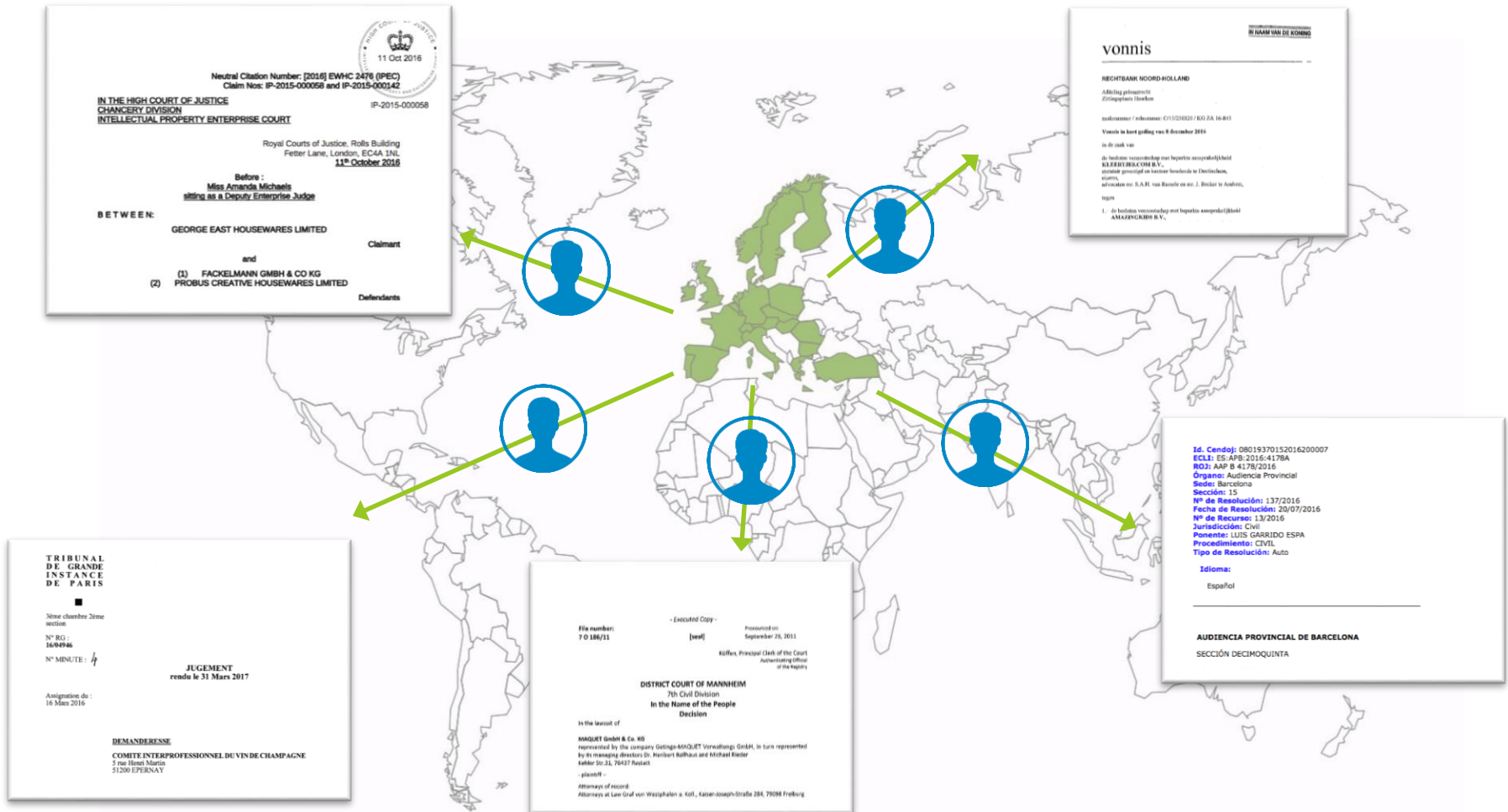
... still often handwritten forms



Structured and harmonized data on cases across geographies...

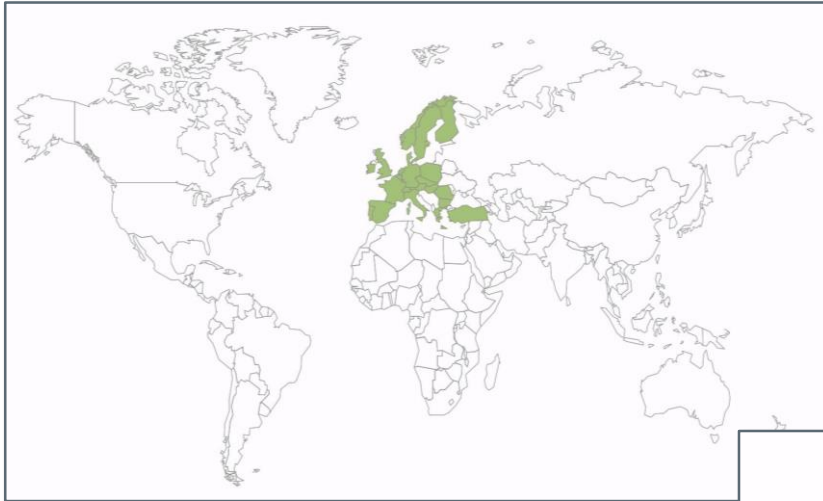


At the start, EU teams of IP professionals reading cases manually



As coverage expanded, complexity and cost exploded...

2009 Coverage



2017 Coverage
15x more decisions
7x more courts



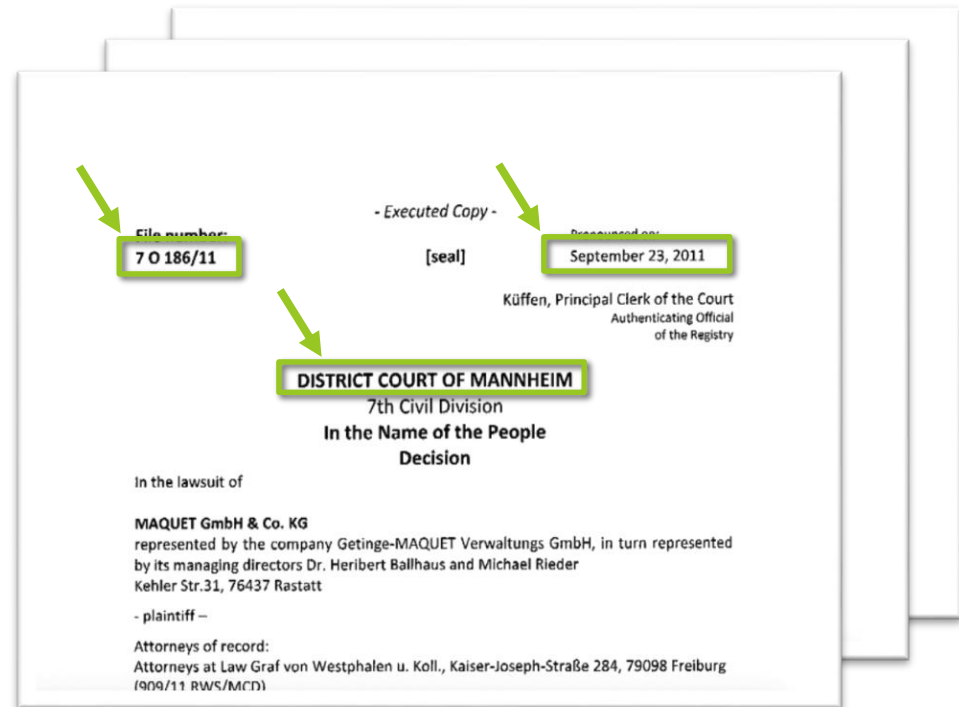
Started to invest in ROBOTS which apply specific RULES

Robots can be used:

- ✓ When a document has identical structure (typically from a particular court)
- ✓ When the information has the same position in the document

Robots perform identical / pre-programmed tasks

- ✓ IF / THEN rules



Several innovative technologies made AI possible...

To enable AI, breakthrough technologies had to be available (since 2006)

- ✓ Availability of very large computing power (GPU...)
- ✓ Cloud computing to have access to calculus power
- ✓ Neural networks have proven to be efficient

But besides technology, what is needed to make a breakthrough?

- ✓ Airbus massive productivity gains thanks to AI... *but how?*
- ✓ Redesign in the Insurance business thanks to AI... *but how?*
- ✓ Facebook / Google detection of users' interests thanks to AI... *but how?*

Next to technology innovations, AI needs

...

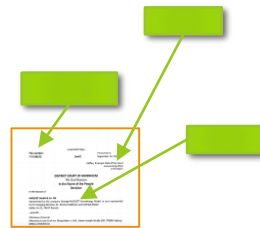
Massive amounts of data ...

Digitalised



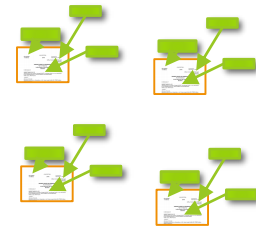
+

Structured



+

Pattern /
Repetition



Most valuable companies around the world have unique data ...

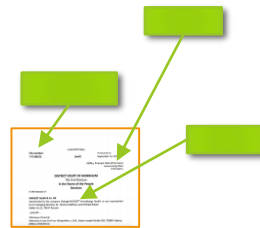
Massive amounts of data ...

Digitalised



+

Structured



+

Pattern /
Repetition



amazon

Predicts what you buy

facebook

Predicts what you like

Google

Predicts what you search

The Economist

“The world’s most valuable
resource is no longer oil,
but data”

And that is exactly what Darts-ip has....global case data

Massive amounts of data ...

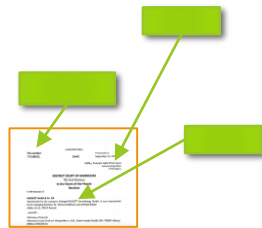
Digitalised



2.7M cases
- sorted over
30M documents...

+

Structured



Analysed

+

Pattern /
Repetition



Information is
often repeated

Let's be concrete...how does it work

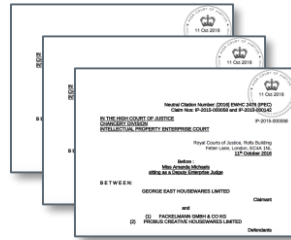
Step 1:
Digitalised + Structured data



For a certain country/court/language, Darts-ip has 100,000 manually pre-analysed cases (courts, dates, parties, outcomes and 25+ data-points).



Step 2:
Testing + Confirming output



Darts-ip finds 1,000 new/unknown cases.

Runs AI algorithm and then manually checks accuracy. Runs the process over and over again until success of >98% is reached.

Step 3:
Benefit from AI



When a new case is found, it automatically suggests data fields.

Aim to analyse cases more rapidly, team focusing on value added tasks

Types of Analysis Tasks	Manual	Automated processes (robots)	AI (in real time)
Document Classification	Weeks	Impossible, too heavy to maintain	Minutes (once trained...)
Admin Meta data (court, date, parties,...)	Weeks/months/years	Some basic possibilities	Minutes (once trained...)
Entity, group, nationality	Impossible, too heavy	Impossible, too many rules	Minutes (once trained...)
NPE	Very heavy desktop research (not economical)	Impossible, too many rules	Minutes (once trained...)
Error detection	Unrealistic, too heavy, not economical	Practically impossible, too many rules	Minutes (once trained...)
Basic legal analysis	Weeks/months/years	Impossible, too many rules	Minutes (once trained...)
Advanced legal analysis	Weeks/months/years	Impossible, too many rules	Too complex currently, might be available one day

Will it impact your Business? Do you have access to proprietary data?

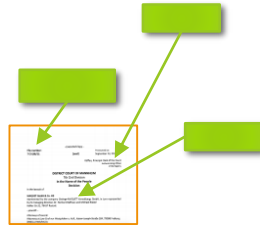
Where in your organisation do you have large amount of data... ?

Digitalised



+

Structured



+

Pattern /
Repetition



Potential examples...

IP right registration

Digitalised ?

+

Structured ?

+

Pattern /
Repetition ?

- ✓ Offices have vast amount of data (applications, prior right, etc.)
- ✓ Attorneys and Lawyers have their internal data
- ✓ Commercial players have all sorts of data electronically

- ✓ Has data been cleaned/structured?
Inconsistencies taken out?
- ✓ Prior right data is available in large database, with some structure attached

✓ Yes

Potential examples...

IP right registration

Impact medium term

- AI algorithms will find potential prior rights more easily.
- Statistics on likelihood of registration, on technology trends, etc.
- “Application support” tools: AI can make work/text suggestions in applications
- Application work still be a manual process.

Potential examples...

Trademark Watches and Searches

Digitalised ?	+	Structured ?	+	Pattern / Repetition ?
✓ Offices have vast amounts of data		✓ Trademark searching firms have structured some of the data		✓ Yes
✓ Lawyers and Attorneys have internal data		✓ Integration of case law into watches / searches provides needed base for clear structured data		
✓ Trade mark searching firms have vast amounts of data				

Potential examples...

Trademark Watches and Searches

Impact medium term:

- HIT score for each trademark found. Less trademarks to review.
- Less screening work required, more value added services.
- Final decisions remain in the hands of the Attorney/Lawyer.

Potential examples...

Opposition/Litigation work

Digitalised ?

- ✓ Offices/Courts have vast amounts of data
- ✓ Lawyers and Attorneys have internal data. Volume sufficient?
- ✓ Case database providers have large amounts of data

+

Structured ?

- ✓ Offices and courts might have done some work in structuring the data
- ✓ Lawyer and Attorneys most likely have not structured their data
- ✓ Some US case law providers have structured data. Who has a global coverage?

+

Pattern / Repetition ?

- ✓ Yes – basic legal concepts
- ✓ No – advanced legal discussions

Potential examples...

Opposition/Litigation work

Impact medium term

- Searching for case law will take less time (natural language)
- Case law providers will provide win rates, aggressiveness, legal trends, info on judges, lawyers, etc. Corporations (end customers) will ask for more visibility in strategy and likely outcome.
- Actual opposition / litigation work will remain a manual process



“Without data you’re just another person with an opinion”

- W. Edwards Deming

Thank you

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