The Next Industrial Revolution:
How IoT will change the way people live work & play

Moderator: Graeme Menzies, Mills & Reeve (England)
Presenters: Erika Carrasco, Field Law (Alberta)
            Tom Downey, Ireland Stapleton Pryor & Pascoe (Colorado)
            Stephan Menzemer, Graf von Westphalen (Germany)
The Next Industrial Revolution: Drones

SCG Legal Annual Meeting – Denver September 8, 2017 9:50am
What is this?
It’s a bird, it’s a plane...

- **RPA** – Remotely Piloted Aircraft
- **UA** – Unmanned Aircraft
- **UAV** – Unmanned Aerial Vehicle
- **UAS** – Unmanned Aircraft System
Did You Know?

▲ Drone operators are “pilots”
▲ The value of Drones:
  • To the global market is $11.3 billion to reach $140 billion by 2025
  • To the Canadian market is expected to be between $100-$260 million by 2025
  • To the U.S. market is expected to be $82.1 billion by 2025
Drone Operations Today

- Border Security
- Arctic Research
- Firefighting
- Flood Monitoring
- Crop Dusting
- Mining
- Farming
- Aerial Photography
- Real-estate
- Communications
- Industrial Logistics
- Pollution Monitoring
- Storm Research
- HAZMAT Detection
- Asset Monitoring
- Event Security
- Port Security
- Construction
- Cargo
- Broadcasting
- Search & Rescue
- Volcanic Research
- Pipeline Monitoring
- Filmmaking
- Crowd Control
- Aerial News Coverage
- Wildlife Monitoring
- Forensic Photography
- Power line Surveying
- Damage Assessment
Top Ten Industries

- Aerial Photography
- Real Estate
- Aerial Survey
- Aerial Inspection
- Agriculture
- Construction
- Infrastructure Inspection
- Film and TV
- Utility Inspection
- Environmental
Nerd Terms
Areas of Regulation

Aviation
Privacy/Trespass
Criminal
Charter
Property/Injury
Intellectual Property
Parks/Wildlife

DRONES
Aviation Regulations

ICAO

FAA

TC

EASA

Australia

CAA
Evolution – Clearing the Air?

- EASA issued a Notice of Proposed Amendments – consultation and feedback ended August 2017
- Canada issued proposed amendments to its Regulations – the feedback period ends October 13, 2017
Other Applicable Laws

- Criminal violations
- Hunting, Gaming and Wildlife
- Parks and Recreation
- Nuisance, voyeurism
- Weaponization
## Legal Matrix

<table>
<thead>
<tr>
<th>CONSTITUTION/CHARTER</th>
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</thead>
<tbody>
<tr>
<td>FEDERAL LAWS</td>
</tr>
<tr>
<td>State/Provincial Laws</td>
</tr>
<tr>
<td>Common Law (Tort)</td>
</tr>
<tr>
<td>Municipal/County</td>
</tr>
</tbody>
</table>
Tort and Privacy Laws

△ “Sunbather” Stories

people from seeing into others’ backyards or upstairs windows; now drones, like thermal-imaging technology, can discern information that was otherwise obtained only at great cost. The question is whether or when the law should intervene to impose legal costs where the physical and financial constraints have fallen. Law can enable us to continue to manage our privacy using features of the real world that we’ve grown up with—and grown dependent on.

http://www.slate.com/articles/technology/future_tense/2016/05/drone_privacy_is_about_much_more_than_sunbathing_teenage_daughters.html
Protect schools, homes from drones' prying eyes, privacy czar says

The office of privacy commissioner Daniel Therrien also calls for some means to “readily identify” operators of the flying devices.
Drones

Man arrested for shooting $1,800 drone won’t apologize, cites privacy

Jeff John Roberts
Jul 29, 2015

When William Meredith’s two daughters complained of a drone flying over the house last Sunday, the 47-year-old Kentucky man took action: he fetched a shotgun and blew the machine from the sky. When the drone’s angry owners came to confront him about the harm to the $1,800 drone, Meredith warned them to stand down or there would be another shooting.
Case Studies

- Aviation Safety vs. Criminal Charges
- Privacy claims under legislation vs. Common law torts
- Property Damage vs. Trespass claims
- Scope of Federal Authority vs. Charter/Constitution freedoms
Legislation

- 38 States in 2016
- 16 States passed 29 bills
- 2 adopted resolutions
- 45 States considered 168 bills is 2015
- 20 States passed 26 of them
- 5 adopted resolution
Insurance

- Property Damage
- General Liability
- Product Liability
- Business Interruption
- E & O
Manufacturing & Software

- Safe path-home and lost-link procedures
- Sense and Avoid
- Geo-fencing
- De-drones
Training and Procedures

- Training – Initial and Ongoing
- Regular Maintenance
- Standard Operating Procedures
- Document – Logs, Reports
- Risk Management Plans
- Supervision and Enforcement
Contractual Provisions

- Scope
- Definitions
- Identification of UAV
- Additional Insured
- Defence and Indemnity
- Limited Liability
Questions?
Erika is a Partner with Field Law in Calgary Alberta. She is leading the firm's Emerging Technology group with a current focus on Drone Law, Autonomous Vehicles and Cyber Liability. She leverages her business, insurance and litigation knowledge and experience to help new and existing clients navigate the fast-paced and constantly changing technological landscape. Erika is one of few lawyers in Canada with litigation experience in Drone Law. In 2017, she was counsel involved in the first conviction, and successful appeal pursuant the Canadian Aviation Regulations.

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The Next Industrial Revolution:

Autonomous Vehicles

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U.S. DOT defines an **automated vehicle system** as:

“a combination of hardware and software (both remote and on-board) that performs a driving function, with or without a human actively monitoring the driving environment.”
SAE Levels of Automation
Challenges to Implementation

- Technology Readiness
- Insurance
- Regulation
- Infrastructure
- Human Acceptance
Federal AV Regulation

- U.S. Department of Transportation


- Current AV regulation through agency interpretations, policy guidance and rulemaking – not federal statute
Federal Policy Guidance

- 15-point safety checklist
- Model state policy
- Regulatory tools
State AV Regulation
States with Enacted Autonomous Vehicle Legislation

LEGEND
Enacted
Executive Order

[Map of the United States showing states with AV regulation]
Legal Hot Topics

• Traditional legal matters – insurance coverage, vehicle defects and products liability, criminal and civil liability for crashes

• Privacy and cybersecurity – security of shared vehicle data and vehicles operating on a network
Legal Hot Topics (Cont.)

• Administrative law – AV fitting into vast regulatory structure for public and private transportation and public utilities

• IP protection and litigation – trade secrets, patent infringement, employment disputes (Google v. Uber)
Questions?
CONCURRENT SESSION IV-A,
Friday, September 8 2017, 9:50 – 11:00 a.m.

The Next Industrial Revolution: How IoT Will Change the Way People Live, Work & Play

“(Medical) Wearables”: Risks & Opportunities
Stephan Menzemer, GvW Graf von Westphalen (Germany)
Outline

• How „(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play
• Legal Framework: German & EU Law
• Challenges: Responsibility, Liability & Sanctions
• Outlook
How “(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (1/7)
How „(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (2/7)
How “(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (3/7)

Kissenger

World’s first mobile kiss messenger
How „(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (4/7)
How „(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (5/7)
How „(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (6/7)
How „(Medical) Wearables“ Do/Will Change the Way People Live, Work & Play (7/7)

Importance of wearable devices and Internet of Thing (IoT) in market

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2016</th>
<th>2020 (expected)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>IoT market</td>
<td>$1.3 trillion</td>
<td>-</td>
<td>$3.04 trillion</td>
<td>International Data Corporation (IDC)</td>
</tr>
<tr>
<td>Ready installed and connected base of IoT devices</td>
<td>-</td>
<td>-</td>
<td>$30 billion</td>
<td>International Data Corporation (IDC)</td>
</tr>
<tr>
<td>Devices connected to the Internet</td>
<td>-</td>
<td>-</td>
<td>$50 billion</td>
<td>Cisco IBSG</td>
</tr>
<tr>
<td>Wearables to be connected to their networks</td>
<td>-</td>
<td>42%</td>
<td>-</td>
<td>Infonetics Research</td>
</tr>
</tbody>
</table>

Legal Framework: German & EU Law (1/5)

Medical Products Legislation (selection)

- German Medical Devices Act (MPG)
- German Medical Devices Operator Regulation (MPBetreibV)
Data Protection Legislation (selection)

- German Federal Data Protection Act (BDSG)
- EU General Data Protection Regulation (GDPR) 2016/679 of 27 April 2016, applicable from 25 May 2018
- German Data Protection Adjustment and Implementation Act (effective date 25 May 2018)
- German Social Code (SGB) I, V, X
Legal Framework: German & EU Law (3/5)

IT-Security Legislation (selection)

• German Federal Office for Information Security Act (BSIG)

• German IT-Security Act (IT-Sicherheitsgesetz) of 17 July 2015 amending several IT-Security relevant Acts

• German Critical Infrastructure Regulation (BSI-KritisV) of 22 April 2016, amended by Regulation of 21 June 2017

• Directive (EU) 2016/1148 of 6 July 2016 “concerning measures for a high common level of security of network and information systems across the Union” (NIS-Directive), to be transposed by the EU member states until 10 May 2018
Legal Framework: German & EU Law (4/5)

German Telemedia and Telecommunications Legislation (selection)

- Telemedia Act (TMG)
- Telecommunications Act (TKG)
General German Legislation ruling Responsibility and Liability

- Civil Code (BGB)
- Product Liability Act (ProdHaftG)
- Product Safety Act (ProdSG)
- Criminal Code (StGB)
- Code of Criminal Procedure (StPO)
Responsibility, Liability & Sanctions (1/6)
Focus on Data Protection & IT-Security

Responsibility to protect PII, particularly health data as SPII by means of (i.a.)

• Principle of Transparency
• informed and free consent of the data subject
• appropriate technical and organizational measures
  (IT-Security)
Responsibility, Liability & Sanctions (2/6)
Focus on Data Protection & IT-Security
Responsibility, Liability & Sanctions (3/6)
Focus on Data Protection & IT-Security
Responsibility, Liability & Sanctions (4/6)
Focus on Data Protection & IT-Security

Responsibility to protect PII, particularly health data as SPII by means of (i.a.)

- Data protection by design/default (Art. 25 GDPR)
- Data protection impact assessment (Art. 35 GDPR)
Responsibility, **Liability** & Sanctions (5/6)
Focus on MPG, MPBetreibV, ProdHaftG & ProdSG

**Liability of (i.a.)**

- producers of “(medical) wearables”
- distributors & retailers of “(medical) wearables”
- hospitals & other health care institutions (as operators)
- health care professionals (as operators)
- insurances (as beneficiaries of health data)
Responsibility, Liability & **Sanctions** (6/6)
Focus: Noncompliance of (S)PII protection

Rights of the data subject

rights to receive compensation for material or non-material damage (BGB, BDSG, ProdHaftG, Art. 82 GDPR)

Administrative & Criminal fines

- up to 20 000 000 EUR, or in the case of an undertaking, up to 4 % of the total worldwide annual turnover (Art. 83 GDPR)
- up to 30 000 EUR administrative fines and/or confiscation under MPG and fine up to 21 600 000 EUR and/or confiscation/imprisonment under StGB
Outlook (1/4)
Challenges: Legal Framework (current status)

- “(medical) wearables” evoke new legal challenges for Data Protection (Privacy and IT-Security)
  - enable lawful use and avoid misuse of (S)PII
  - educate users in controlling their (S)PII
- legal fitting of cutting edge technologies with “oldschool” and future law, i.a.
  - BGB of 1896
  - GDPR of 2016/2018
- establishing appropriate IT-Security standards (actual legislation on EU and German level)
Outlook (2/4)
Challenges: Legal Framework (moving forward)

• legal measures
  o stronger/weaker state regulation of (medical) wearables?
  o “voluntary” Code of Conducts/Self Commitments of producers, distributors & operators of “(medical) wearables”?
  o Data Protection-, IT-Security- & Liability-Legislation must not be an (inappropriate) “Gatekeeper” for IT Product Developments
Outlook (3/4)
Opportunities: **Healthcare & Costs**

- Health: prevention/care particularly for elderly and/or chronic patients
- Feelgood Factors:
  - feeling fit and healthy
  - feeling safe (self-control, „family doctor on the wrist“)
Outlook (4/4)
Opportunities: Healthcare & Costs

• Costs
  o reduced insurance tariffs (but only for people regularly transferring their healthcare data)
  o reduction of the overall costs for healthcare prevention and monitoring
Thank you very much for your attention!

Stephan Menzemer
Partner
Rechtsanwalt und Wirtschaftsmediator

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Questions?