Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Pioneering in Cyberspace and (Cyber)Law - Al(Law) & Coronamangement-

(2020/04/16 - 2020/05/14 - WiP - Version 4.0 - Part IV)

for the Course

Al & Humanity: The Ethics of Data Science

Frankfurt School of Finance & Management



Citation Etiquette & Self-Image



If you want to share these slides, please cite as follows:

V. Schmid,

AI(Law), WiP – Version 4.0 – Part I – IV, 2019/2020, Slide [...] in "Werbung, Meinung, Cyberspace –

Eine neue Perspektive auf (Rechts)Wissenschaft", Springer, 2020.

This first Al(Law) lecture is a pars pro toto approach and does not claim exhaustivity. Moreover, as well as in the slides as in the oral presentations, particular legal systems, languages and technologies ("drones") are referred to on the basis of didactic reasoning. A disregard for other legal systems, languages and technologies is not intended. Moreover, it is a law lecture presenting legal analysis and not wishing to nor purporting to give political, economic or personal guidance.* A final legal assessment is not warranted.



^{*}Homepage of the Department of Public Law, Technical University Darmstadt, Germany: https://www.cylaw.tu-darmstadt.de/home_2/reachoutenglish_1/reach_out.de.jsp

Legal Studies in Realtime – The Coronachallenge





*Orissa Post, "Indian police officers use novel tactics to spread COVID-19 awareness", 2020/04/05 (2020/04/09).



Legal Studies in Realtime – The Corona- & (IT-)Securitychallenge





*Bloomberg, <u>"Israeli Cybersecurity Industry Grows as Global Threats Multiply"</u>, 2017/01/26, (2020/04/09); Photographer: Jack Guez/AFP via Getty Images.



Cyberlaw & Law of the Horse?



- Comparative Legal Analysis: Cyberlaw as a new discipline?
- In Germany:
 - V. Schmid, <u>Cyberlaw Eine neue Disziplin im Recht?</u> in: Hendler, Reinhard/Marburger, Peter/Reinhardt, Michael/Schröder, Meinhard, Jahrbuch des Umwelt- und Technikrechts 2003, Erich Schmidt Verlag, 2003, p. 449-480 (2020/04/09)
- In the United States of America:
 - (1) Easterbrook, Cyberspace and the Law of the Horse, University of Chicago, Law Forum 207 (1996) (2020/04/09)
 - (2) Lessig, The Law of the Horse: What Cyberlaw might teach, Harvard Law Review, Vol. 113, pp. 501 (2020/04/09)*

^{*}See also V. Schmid, <u>Der kleinste gemeinsame Nenner – 13 Basics zum Cyberlaw?</u> [Cyberlaw All 2 – 2014], CyLaw-Report XXXVI / 2016, p. 4 (2020/04/09).



Legal Studies in Realtime – The Coronachallenge



- > Pionieering Project (PP): Start Summer 2019
- We don't go back, we go forward.
- ➤ Multifaceted teaching & learning → Academic Collaboration & Legal Open Innovation ("Rechtswissenschaftliche Academic Open Innovation" [RAOI])
- ➤ Homework: Two Tasks (due by 2020/05/14)
- ➤ Copyright; Data Protection & (IT-) Security Law are respected → Especially no recordings!
- Chatham House Rule applies:

"When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."



^{*} https://www.chathamhouse.org/chatham-house-rule# (2020/04/09).

Legal Studies in Realtime – The Coronachallenge



- Time Management: 360 Minutes
- → This is not a Realworld Lecture duplicated in Cyberspace. Therefore, please make sure that your contributions are short, to the point and gentle. In Cyberspace, there is no such achievement as ephemerality. Hence, please make your best effort to ensure your contributions to the lecture are noteworthy.
- ➤ Author prefers actuality to sustainability. For this reason the multifaceted teaching concept has a content focus and not a presentation priority.
- > For the sake of actuality and speed, German sources are sometimes included.
 - E.g. V. Schmid, <u>Künstliche & «Natürliche» Intelligenz: Was ich schon immer (vor 2020) über Recht, Ethik und «Robustheit» wissen wollte</u> in: Schweighofer/Kummer/Saarenpää (Hrsg.), Verantwortungsbewusste Digitalisierung- Tagungsband des 23. Internationalen Rechtsinformatik Symposions (IRIS 2020), p. 31 40 (2020/04/09)
- Brown: Sources in German Language



Legal Studies in Realtime – The AI(Law) Challenge Sources as presented in March 2020 (2 slides)







Legal Studies in Realtime – The AI(Law) Challenge Update of Sources as presented in March 2020:



Communication

- "Building a European Data Economy" COM(2017) 9 final, 2017/01/10 ("EDE-COM-I-2017")
- "Artificial Intelligence for Europe" COM(2018)237 final, 2018 /04/25 ("AlfE-COM-I-2018")
- "Coordinated Plan on Artificial Intelligence" COM(2018)795 final, 2018/12/07("CPAI-COM-II-2018")
- "Building Trust in Human-Centric Artificial Intelligence" COM(2019)168 final, 2019/04/08("HCAI-COM-I-2019")

Report

"Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics" COM(2020) 64 final, 2020/02/19 ("SLAIIoTR-REP-I-2020")

White Paper

"On Artificial Intelligence - A European approach to excellence and trust" COM(2020) 65 final, 2020/02/19 ("AIEAET-WP-I-2020")



Legal Studies in Realtime – The AI(Law) Challenge Update of Sources as presented in March 2020:



Independent High-Level Expert Group on AI (AI HLEG):

- "Ethics Guidelines for Trustworthy AI", 2019/04/08("EGEGfTAI-I-2019")
- "A Definition of AI: Main capabilities and disciplines", 2019/04/08 ("EGDoAI-I-2019")
- "Policy and Investment Recommendations for Trustworthy AI", 2019/06/26 ("EGPaIRfTAI-I-2019")

Expert Group on Liability and New Technologies – New Technologies Formation (NTF):

"Liability for Artificial Intelligence and other emerging digital technologies", 2019/11/21 ("EGNTF-LAIDT-I-2019")



Legal Studies in Realtime – The Coronachallenge PP & Examination in Summer 2019



- > Exam: Written Law Assignment
- Evaluationsheet



Examination 2019:

Five Questions & Formal Requirements



For a total of 30 points, answer the following questions (with references; the total maximum points reachable for each answer are stated behind the question):

- 1. Explain why in an "Al-driven world" (EGPaIRfTAI-I-2019, p. 49.) legal and ethical perspectives alone might not suffice. (3 points)
- 2. Explain the importance and meaning of the "FRA-Formula" according to the Deliverables of the Independent High Level Expert Group on Al. (5 points)
- 3. Are you convinced of the effectiveness of the "4-ethical principles" and "7-key requirements" for AI? (10 points)
- 4. Why is the legislative power the first power in the Federal Republic of Germany as well as in the United Kingdom? (7 points)
- 5. Besides tasks 1-4: According to your prioritization, in a global perspective, what are the core challenges of an "Al-driven world"? (5 points)



Examination 2019: Five Questions & Formal Requirements



Font size 12, spacing 1.5p, use a serif typeface (e.g. *Times New Roman*). Your answers to all of 1. - 5. should not be more than **three pages in total.**



Examination 2019: Evaluation of the Law Assignment



Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Evaluation of Law Assignment for

Pioneering in Cyberspace and (Cyber)Law
- Al(Law) –

for the Course

Al & Humanity: The Ethics of Data Science

Frankfurt School of Finance & Management 19/09/13 & 19/09/27



Examination 2019: Evaluationsheet of the Law Assignment



		Notes from corrector
1	Clarity of answer – are the results clear, easy to read and understand?	
2	Completeness of assignment	
3	Quality of argumentation – is the argument precise, consistent and does it reflect the essential content of the course and the examinees understanding thereof?	
4	Originality – novelty of own thoughts and in- dependent research	
5	Quality of research – choice of resources and scope of material and correct citation	
6	Presentation – compliance with formal requirements, correct use of language, grammar, spelling, sentence structure, etc.	
Further Comments		



Legal Studies in Coronatimes & for a Pionieering Project (PP)



- Collaborative Effort: Success depends not only on the sender but also on the recipients of a lecture
- > Be assured: Grading/Evaluation will be standard and fair
- Further information: See <u>Homepage of the Department of Public Law</u>, <u>Technical University Darmstadt</u> (2020/04/09)
- (1.) Inhaltliche Agenda ist die Vermittlung von Change Management- wie Rechtsvergleichungs- und Globalrechtskenntnissen um Wissen über "Postcoronaeconomics" und (Corona-)Law aus deutsch-europäischer Perspektive zu generieren.
- (2.) Personale Agenda ist die Weiterentwicklung von Lehrstuhlpersonal wie Studierenden. Konzepte des selbstgesteuerten Lernens verlangen überdurchschnittliches Engagement, gerade der Studierenden.



Legal Studies in Coronatimes & for a Pionieering Project (PP)



- (3.) Mediale (Vermittlungs-)Angebote verlangen die Vertrauenswürdigkeit von Lehrenden wie Lernenden etwa, dass Urheber- und Datenschutzrechte beim Streaming respektiert werden.
- (4.) Die traditionelle FS³ (flexible, sensitive and sensible solution) Agenda des Lehrstuhls ist auch hochschulrechtlich gefragt: Das Prinzip der Chancengleichheit (auch im Verhältnis zu vergangenen Studierendengenerationen) ist auch angesichts der medialen Veränderung des Lehrangebots zu wahren. Es wird versichert: Innovations- und Veränderungsmanagement werden nicht zu einer prüfungsrechtlichen Benachteiligung der Studierenden des Sommersemesters führen.
- (5.) Lehrinkubatoren und Lehrinnovation sollen kollaborativ (mit Feedback der Studierenden) verwirklicht und gelebt werden. Deswegen stellt die Professorin ihre E-Mail-Adresse für Kritik zur Verfügung: schmid@cylaw.tu-darmstadt.de



Legal Studies in Realtime – The Coronachallenge 2020 Homework: Two Tasks (due by 2020/05/14)



- Complete the Questionnaire
- Read and prepare the <u>decision of the U.S.</u> Supreme Court (589 U.S. (2020) of 2020/04/06



Legal Studies in Realtime – The Coronachallenge First Steps: "About Law (and Democracy)"



- (1) Complete the Questionnaire: RAOI-1
- (2) Read and prepare the decision by the U.S. Supreme Court of 2020/04/06
 - a) https://www.supremecourt.gov/opinions/19pdf/19a1016_o759.pdf
 - b) Highlight parts of the decision using the following strategy:
 - > Green: Law of Procedure
 - Orange: Noteworthy for the Future
 - Pink: Results/Impact
 - Yellow: Essentials for Reasoning/Argumentation
- (3) Teaching Agenda (TA): You will become familiar with the legal principles of democracy —in this case, absentee ballot votes in these days of Corona, and you will be prepared for the next challenge electronic votes.



Legal Studies in Realtime – The Coronachallenge Questionnaire: RAOI-1



Jean Monnet Centre of Excellence "EU in Global Dialogue" (CEDI)















A City of (Digital) Science needs Knowledgeable Citizens!



Legal Studies in Realtime – The Coronachallenge Questionnaire: RAOI-1



- 1. About law:
 - a. What does "law" mean to you?
 - b. What do you want to know about "law"?
 - c. In your opinion, what is the relationship between law and truth?
- 2. Which risks should the law protect against especially in "Coronatimes" (2020)
- 3. What contributions can or should the law make (regarding the diffusion of technology in particular)?
- 4. How do you perceive the function and meaning of the law...
 - a. in regards to the unification of Europe?
 - b. in regards to the departure of member states?
- 5. How do you see the future development of law around drones, and what contribution can current German and European law make to future laws?



Legal Studies in Realtime – The Coronachallenge First Steps: "About Law (and Democracy)"



Cite as: 589 U.S. ____ (2020)

1

Per Curiam

NOTICE: This opinion is subject to formal revision before publication in the preliminary print of the United States Reports. Readers are requested to notify the Reporter of Decisions, Supreme Court of the United States, Washington, D. C. 20543, of any typographical or other formal errors, in order that corrections may be made before the preliminary print goes to press.

SUPREME COURT OF THE UNITED STATES

No. 19A1016

REPUBLICAN NATIONAL COMMITTEE, ET AL. v. DEMOCRATIC NATIONAL COMMITTEE, ET AL.

ON APPLICATION FOR STAY

[April 6, 2020]



Legal Studies in Realtime – The Coronachallenge First Steps: "About Law (and Democracy)"



Cinematographic Lecture Concept & Background: <u>Interview with Sen. Amy Klobuchar</u> (2020/04/09)



Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Pioneering in Cyberspace and (Cyber)Law - Al(Law) & Coronamangement-

End of Part IV



Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Pioneering in Cyberspace and (Cyber)Law - Al(Law) -

(2019/09 - WiP - Version 3.1 + Version 3.0 - Part I - III)

for the Course

Al & Humanity: The Ethics of Data Science

Frankfurt School of Finance & Management 19/09/13 & 19/09/27



Lecture History of PP & Survival Guide



- > Part IV (2020/04): Pioneering in Cyberspace and (Cyber)Law
 - AI(Law) & Coronamangement -
- ➤ Part I III Version 3.1 (2020/04) + 3.0 (2019/09)



Pioneering in Cyberspace and (Cyber)Law – Al(Law)

(WiP – Version 3.0)



Part I:	 Who? What? When? How? Where? Why?
Part II:	(Global) Law (as a Matrix)Al(Law)?
Part III:	➤ Legal Resources for Research in Cyberspace (LR²C)
Appendix:	 Appendix (I): Lecture from 19/09/13 - Version 1.2 Appendix (II): Basics in Legal Commentary / Literature – "Communication" (not legally binding in principle)



Introduction ("Vorstellung")



- "Meta Lecture": An anglophone (World English) lecture with "in-depth strategies" incorporating German Law and German-European Legal Perspectives
- → Translingual* for the purpose of visible multilingualism** (Transsprachlich im Sinne von "Sichtbarer Mehrsprachlichkeit")
- A Cinematographic Lecture Concept
 Video presentation and analysis of "Slaughterbots"

https://www.youtube.com/watch?v=ecClODh4zYk

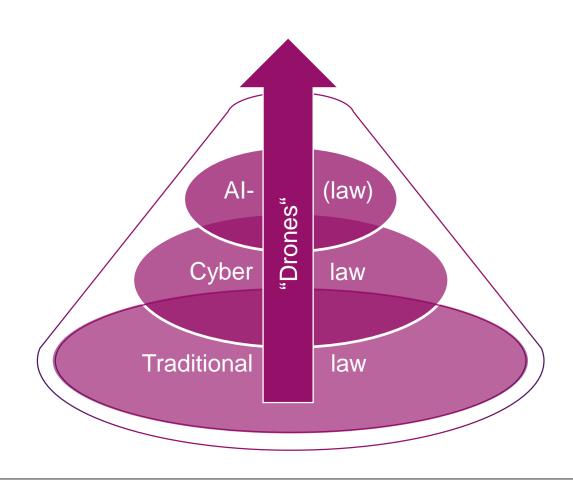
^{*}V. Schmid, Verwaltungsorganisation und moderne Kommunikationsmittel, in: K. Asada/ H. Assmann/Z. Kitagawa/J. Murakami,/M. Nettesheim(Hrsg.), Das Recht vor den Herausforderungen neuer Technologien, Mohr Siebeck, 2006, p. 71.

**D. Singelton/L. Aronin (Eds.): Twelve Lectures on Multilingualism Bristol, 2019.



"Drone Law" in a Law Cone







Citation Etiquette & Self-Image



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V. Schmid,
AI(Law), WiP – Version 3.0 – Part I – III, 2019/09, Slide [...] in
"Werbung, Meinung, Cyberspace –
Eine neue Perspektive auf (Rechts)Wissenschaft", Springer, 2020.

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^{*}Homepage of the Department of Public Law, Technical University Darmstadt, Germany: https://www.cylaw.tu-darmstadt.de/home_2/reachoutenglish_1/reach_out.de.jsp

Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Pioneering in Cyberspace and (Cyber)Law - Al(Law) -

(WiP – Version 3.0 – Part I)



Pioneering in Cyberspace and (Cyber)Law – Al(Law)

(WiP – Version 3.0)



Part I:	 Who? What? When? How? Where? Why?
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Part I: Pioneering in Cyberspace and (Cyber)Law Agenda & Table of Contents



2 Contributions to: Sebastian Köhler

Al & Humanity: The Ethics of Data Science

Frankfurt School of Finance & Management, Winter 2019

1st Contribution 19/09/13 – see Appendix (I)

- Who?
- > How?
- > When?
- Where?
- ➤ What & Why?
- When & What?
- ➤ Where & Why?



Who? Diversity in AI(Law) as a Guideline



- Professor Dr. Viola Schmid*, LL.M. (Harvard)
 (veniae legendi in Public, European Union and Energy Law)
- Master Students in Applied Data Science
- Diversity in AI(Law) in the European Union:

"It is critical that, as AI systems perform more tasks on their own, the teams that design, develop, test and maintain, deploy and procure these systems reflect the diversity of users and of society in general. This contributes to objectivity and consideration of different perspectives, needs and objectives. Ideally, teams are not only diverse in terms of gender, culture, age, but also in terms of professional backgrounds and skill sets."**

^{**}EGEGfTAI-I-2019 (abbreviation see later on), p.23; see also AlfE-COM-I-2018, p. 2: "Talent should be nurtured, gender balance and diversity encouraged."; see also AlfE-COM-I-2018, p. 12: "More women and people of diverse backgrounds, including people with disabilities, need to be involved in the development of AI"; see also EGPaIRfTAI-I-2019, p.34 para 23: "Increase the Proportion of Women in Science and Technology".



^{*}H. Schulze-Fielitz, Staatsrechtslehre als Mirkokosmos, 2013, Academic pedigree after page 504 Table IV/1.

What & Why? 4 quotations: "Al-driven world" with "Game-changing nature", "Al is a reality" and "Revolution"?



- ➤ "Al-driven world"*
- "Game-changing nature of AI"**
- > "[...] Al is a reality"***
- ➤ "The P2C context or Digital Government is emerging very rapidly, leading to a potential revolution in the role and structure of government and its relationship with individuals and businesses."****

Compare p. 14 for documents on EU Level:

^{****}EGPaIRfTAI-I-2019, p. 7 citing Deloitte Insights, How artificial intelligence could transform government (2017), available at: https://www2.deloitte.com/insights/us/en/focus/artificial-intelligence-in-government.html (19/10/02).



^{*}EGPalRfTAI-I-2019, p. 49.

^{**}AlfE-COM-I-2018, p. 4.

^{***} AlfE-COM-I-2018, p. 1.

How? (I) Version 3.0



- ➤ First AI(Law) lecture in Hessen and in Germany? → WiP
- Time management: 19/09/27
- 2 sets of slides:
 - (1) Pioneering in Cyberspace and (Cyber)Law Al(Law) (2019/09– WiP Version 3.0) Part I, II & III
 - (2) First lecture 19/09/13 WiP Version 1.1 (Appendix I, S. 84ff.)
- Highlighting in color (especially in quotations) by the author



How? (II) Version 3.0



Didactic Concept:

The didactic concept is "designed for the target group". It also wants to address audiences who neither

- invest in traditional legal full-time studies nor
- have traditional judicial career ambitions (as a judge, prosecutor, lawyer..)
- Concept of flexible, sensible and sensitive solution ("FS3-Formula")
- As little law as possible, as much law as necessary (and vice versa)

*Author's terminology.



How? (III) Version 3.0



Definition of "Foresight Legal"*:

- Compound word combining "foresight" and "legal"
- Foresight: What are the core elements of future law and law in the future?
- ➤ Legal: The origin of this foresight comes from a scholar with legal competence in German-European Law
- ➤ The "product" is a contribution to a discourse which includes not only economic and technological perspectives (legal design, namely Cyberlexonomics*)
- ➤ The final step needs to be a world-enhancing innovation, selecting the best of the past in order to ensure a hybrid reality consisting of real world and cyberspace in the future

Concept of "Foresight Legal"*:

This lecture should enable students to update their AI(Law) research in the future (especially with Part II & III - (Global) Law Matrix and Legal Resources for Research in Cyberspace (LR²C)).

*Author's terminology.



How? (IV)



- I. Pioneering in Cyberspace and Cyberlaw I An Anglophone Lecture about (Cyber)Law in Germany and Europe (19/09)
- II. Pioneering in Cyberspace and Cyberlaw II An Anglophone Lecture about (Cyber-)Law in Germany and Europe (19/09)
- III. Pioneering in Cyberspace and Cyberlaw III An Anglophone Lecture about "Trustworthy, Lawful & Ethical AI" (19/09) in a European Union Perspective



When? (I)

Timeline for a "Trustworthy Artificial Intelligence for Europe"



- ➤ 04/2018 Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, Artificial Intelligence for Europe (25.4.2018 COM(2018) 237 final)
- ➤ 06/2018 High-Level Expert Group on AI (AI HLEG)
- 12/2018 First draft of "Ethics Guidlines for Trustworthy AI"
- > 04/2019 "Ethics Guidlines for Trustworthy Al"
 with "Trustworthy Al Assesment List" (pilot version)
- > 04/2019 "AI HLEG A **Definition of AI**: Main Capabilities and Disciplines"
- > 06/2019 "Al HLEG **Policy and Investment Recommendations** for Trustworthy Al"
- 2020 Revised Version of "Trustworthy Al Assessment List"



When? (II)

Timeline for a Course on





Quantity of Sources:

Focus (09/2019): 4 Sources

(in expectation of the report of the German Data Ethics Commission announced for 19/10/22)

"JIT" (Just in Time) in September 2019:

2 Lectures (Part I, II & III) with 180 Minutes in total: 360 Minutes



When & What? (III) in summa status AI(Law) in the EU

TECHNISCHE UNIVERSITÄT DARMSTADT

4 Sources & Abbreviations (by the author)

(1) <u>AlfE-COM-I-2018</u>

Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions **Artificial Intelligence for Europe**, COM(2018) 237 final (2018/04/25)

(2) <u>EGEGfTAI-I-2019</u>

Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission: Ethics Guidelines for Trustworthy AI (2019/04/08)*

(3) <u>EGDoAI-I-2019</u>

Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission: A Definition of AI: Main capabilities and disciplines

Definition developed for the purpose of the AI HLEG's deliverables (2019/04/08)*

(4) EGPaIRfTAI-I-2019

Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission Policy and Investment Recommendations for Trustworthy AI (2019/06/26)

^{*}A first draft of this document which underwent an open consultaion was released in 2018/12. This current version took into account the feedback gathered.



Where? "Glocal* importance" in 2019 or "German Excellence. Global Relevance"?**



- Frankfurt School of Finance and Management & Technical University Darmstadt, Germany
- ➤ 28. EDV Gerichtstag Saarbrücken, Germany (19/09/19 Algorithmen in Justiz und Verwaltung – Stand, Perspektive und Herausforderungen)
- German Data Ethics Commission Report announced for 19/10/22
- ➤ Net.Law.S 2019 Konferenz für die Digitalisierung der Wirtschaft, Fokusthema: Daten und Algorithmen – Ist der Einsatz Künstlicher Intelligenz rechtskonform realisierbar und von der Gesellschaft akzeptiert? Nürnberg, Germany (19/11/05-19/11/06)
- ➤ Internet Governance Forum, Berlin, Germany Applying Human Rights and Ethics in Responsible Data Governance and Artificial Intelligence (19/11/27)
- **≻** […]
- → Teaching & studying AI(Law) is a global imperative?



^{*}Author's terminology.

^{**}Letterhead of Frankfurt School of Finance and Management.

What & Why?

Teaching & studying Al(Law) is a global imperative?



"Encourage Member States to support and further develop basic education on Al and digital literacy [...]. However, it also includes fostering Al knowledge amidst the less young, encompassing employees, executives, civil servants, policy-makers and all other individuals. The education and nurturing of STEM and more specifically Al experts not only as technology drivers, but also as enablers for society on all levels, needs to be emphasised, supported and extended."*

E.g. The Title of [...]

- "Section F. Generating appropriate Skills and Education for AI"**
- "Redesign Education Systems from Pre-School to Higher Education"***
- "Upskill and Reskill the Current Workforce"****



^{*}EGPalRfTAI-I-2019, p. 10 para 1.2.

^{**}EGPalRfTAI-I-2019, p. 31ff.

^{***}EGPalRfTAl-I-2019, p. 32 para 21.

^{****}EGPalRfTAI-I-2019, p. 35 para 24.

Where & Why? (I) "Al for Europe" as Al for a Global Market



- "The EU can make a unique contribution to the worldwide debate on AI based on its values and fundamental rights."*
- "The main ingredients are there for the EU to become a leader in the AI revolution[...]"**
- "Without such efforts, the EU risks losing out on the opportunities offered by AI, facing a brain-drain and being a consumer of solutions developed elsewhere."***
- → Teaching & studying AI(Law) is a global imperative?



^{*}AlfE-COM-I-2018, p. 18.

^{**}AlfE-COM-I-2018, p. 19.

^{***}AlfE-COM-I-2018, p. 6.

Where & Why? (II) "Al for Europe" based on 3 Components



"Trustworthy AI has three components:

- (1) it should be lawful, ensuring compliance with all applicable laws and regulations
- (2) it should be ethical, demonstrating respect for, and ensure adherence to, ethical principles and values and
- (3) it should be robust, both from a technical and social perspective, since, even with good intentions, AI systems can cause unintentional harm.

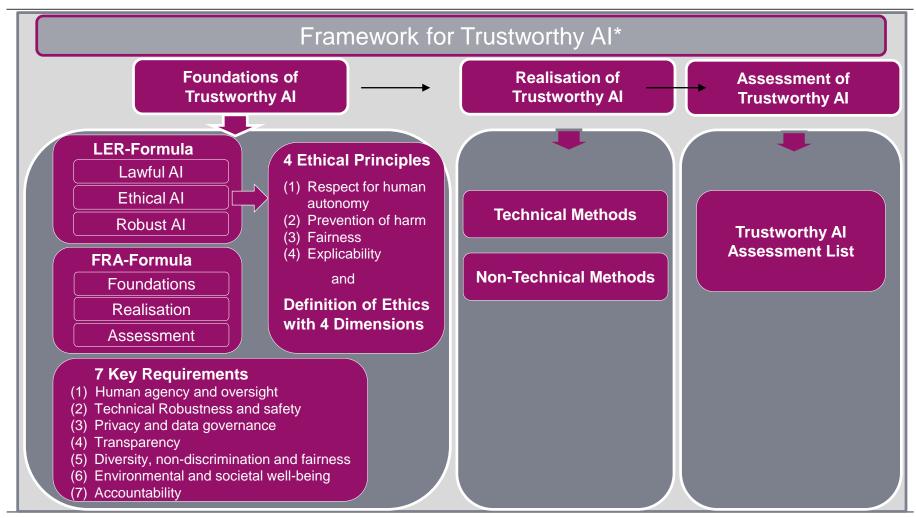
Trustworthy Al concerns not only the trustworthiness of the Al system itself but also comprises the trustworthiness of all processes and actors that are part of the system's life cycle."*

*EGEGfTAI-I-2019, p.38.



Framework with Graph from the Author Foundations: LER-,FRA-Formula & 7 Key Requirements







Where & Why? (III) Analysis: "Al for Europe" Reterritorialization & Global Law



- ➤ Al will be designed, developed, tested and maintained, deployed and procured and bought globally.
- In this global market, the EU wants to participate with an "AI for Europe".
- ➤ This is a "Reterritorialization" of a hitherto technologically frontierless cyberspace (with "Deterritorialization").
- ➤ For this territorialized approach, branded as "AI for Europe", law, ethics and robustness are the essential components (following the EGEGfTAI-I-2019 of the AI HLEG).
- ➤ The law(fulness) component is emerging hence legal research and knowledge of the global law matrix is useful for the future in order to achieve legal certainty, discover business opportunities, as well as avoid unforseen risks



Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Pioneering in Cyberspace and (Cyber)Law - Al(Law) -

(WiP – Version 3.0 + Version 3.1 – Part II)

- A. (Global) Law (as a Matrix)
- B. AI(Law)?



Pioneering in Cyberspace and (Cyber)Law – Al(Law)

(WiP – Version 3.0)



Part I:	 Who? What? When? How? Where? Why?
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Part II: Agenda & Table of Contents – Table 1 A. (Global) Law (as a Matrix)



I. Law

- 1. Coordinates (Vertical, Horizontal & Hierarchical) of a Global Law Matrix
 - a. 3 Coordinates: Vertical, Horizontal & Hierarchical (Overview)
 - b. Legal Systems in a Horizontal Perspective
 - c. Legal Systems in a Vertical Perspective
 - d. Legal Systems in a Horizontal & Vertical Perspective
 - e. Legal Systems in a Hierarchical Perspective
 - f. Legal Systems in a Horizontal & Hierachical Perspective
 - g. Legal System in a Vertical & Hierachical Perspective
 - h. Legal System in a Horizontal, Vertical & Hierarchical Perspective
 - i. 2 Legal Systems in a Hierarchical Perspective (I)

 For example: Primacy of European Union Law in Principle



Part II: Agenda & Table of Contents – Table 2 A. (Global) Law (as a Matrix)



- (Representative) Democracy, Branches of Government and the Seperation of Powers Doctrine (an Explanation especially for Vertical & Hierarchical Perspectives)
 - a. Level 1 FRG: Parliament as Supreme Source of Law
 - b. Level 4 UK: Parliament as Supreme Source of Law
 - aa. Constitution
 - bb. Constitution 2 Fundamental Principles



Part II: Agenda & Table of Contents – Table 3

B. Al(Law) or Al Law in the European Union



- I. 4 Sources of (European Union) AI(Law) or AI Law? A Content Perspective
- II. 4 Sources of (European Union) AI(Law) or AI Law? An Institutional Perspective
 - 1.1 Source of (European Union) Al(Law) or Al Law?
 An Institutional Perspective for the "Communication"
 - 2.1 Source of (European Union) Al(Law) or Al Law?

 A Hierarchical Perspective for the "Communication"
 - a. Level 2: EU & AI(Law) in a Hierarchical Perspective
 - b. "Communication" of (European Union) AI(Law) or AI Law? Sui generis
 - 3. 3 Sources of (European Union) Al(Law) or Al Law?
 An Institutional Perspective for the Al HLEG
 - 4. 4 Sources of (European Union) AI(Law) or AI Law? Summing Up



Part II: Agenda & Table of Contents – Table 4

B. Al(Law) or Al Law in the European Union



- III. "Trustworthy AI" for Europe
 - 1. 2 Definitions of Al
 - 2. Definitions of Ethics and Moral
 - 3. 3 Components of a "Trustworthy AI"
 - 4. Guidance for Lawfulness Welcomed
- IV. Project Management: The Augmentation/Virtualization of Realworld with Al
 - 1. Graph of the Framework in the Guidelines
 - 2. Framework with Guidance from the Author
 - Framework with Graph from the Author (LER-, FRA-Formula & 7 Key Requirements)
- V. Title of the Course: "Al & Humanity" 4 Translations for Humanity in German and the Principle of Legality by Design



I. Law Matrix

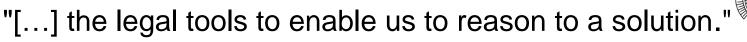


The following matrix for global (AI) law consists of a set of 5 coordinates:

- Horizontal
- Vertical
- Hierarchical
- Institutional
- Contentwise



I. Law





19/09/24 Supreme Court of the United Kingdom:

"It is important to emphasise that the issue in these appeals is not when and on what terms the United Kingdom is to leave the European Union. The issue is whether the advice given by the Prime Minister to Her Majesty the Queen on 27th or 28th August 2019 that Parliament should be prorogued from a date between 9th and 12th September until 14th October was lawful. It arises in circumstances which have never arisen before and are unlikely ever to arise again. It is a "one off". But our law is used to rising to such challenges and supplies us with the legal tools to enable us to reason to a solution."*

^{*}R (Miller) v The Prime Minister, Cherry & Ors v Advocate General for Scotland [2019] UKSC 41, UKSC 2019/0193, UKSC 2019/0193, p. 1, available at https://www.supremecourt.uk/cases/docs/uksc-2019-0192-judgment.pdf (19/09/25).



- 1. Coordinates of a Global Law Matrix
- a. 3 Coordinates: Vertical, Horizontal & Hierarchical (Overview)



Coordinate (I): Multilevel System → 4 Levels in a "Vertical Perspective"

- 1. Law of the Federal Republic of Germany (Deutsches Recht)
- 2. European Union Law
- 3. International (Public) Law
- 4. Comparative Legal Analysis (193 UN Member States)*

Coordinate (II): Seperation of 3 Powers in a "Horizontal Perspective"

- 1. Legislative Power
- 2. Executive Power
- 3. Judicial Power

Coordinate (III): Sources of Law in a "Hierarchical Perspective"

*https://www.un.org/en/member-states/index.html (19/09/20)



b. Legal Systems in a Horizontal Perspective Coordinate (I)



Law of the Federal Republic of Germany

European Union Law

International (Public) Law

Comparative Legal Analysis



c. Legal Systems in a Vertical Perspective Coordinate (II)



Legislative Power
Executive Power
Judicial Power



d. Legal Systems in a Horizontal & Vertical Perspective Coordinates (I & II)



Law of the Federal Republic of Germany	European Union Law	International (Public) Law	Comparative Legal Analysis	
Legislative Power	Legislative Power	Legislative Power	Legislative Power	
Executive Power	Executive Power	Executive Power	Executive Power	
Judicial Power	Judicial Power	Judicial Power	Judicial Power	



e. Legal Systems in a Hierarchical Perspective Coordinate (III)



Primary Law			
Secondary Law			
Tertiary Law			



f. Legal Systems in a Horizontal & Hierarchical Perspective Coordinates (I & III)



Law of the Federal Republic of Germany	European Union Law	International (Public) Law	Comparative Legal Analysis	
Primary Law	Primary Law	Primary Law	Primary Law	
Secondary Law	Secondary Law	Secondary Law	Secondary Law	
Tertiary Law	Tertiary Law	Tertiary Law	Tertiary Law	



g. Legal Systems in a Vertical & Hierarchical Perspective Coordinates (II & III)



	Primary Law		
Legislative Power	Secondary Law		
	Tertiary Law		
	Federal Level		
Executive Power	State Level		
	Communal Level		
	Primary Court		
Judicial Power	Secondary Court		
	Tertiary Court		

h. Legal Systems in a Horizontal, Vertical & Hierarchical Perspective Coordinates (I, II & III)

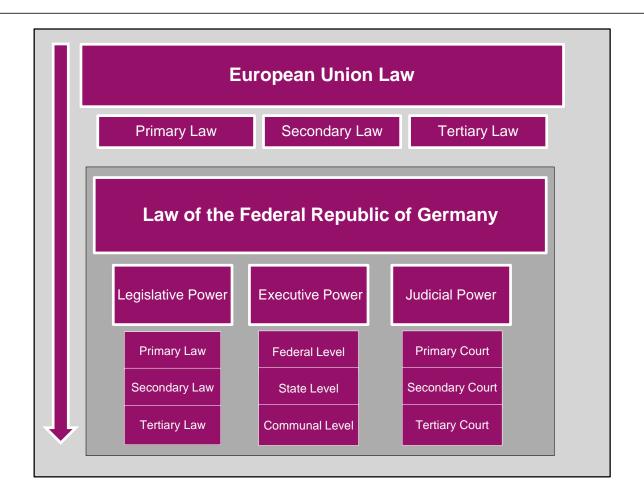


Law of the Federal Republic of Germany		European Union Law		International (Public) Law		Comparative Legal Analysis	
Legislative Power	Primary Law	Legislative Power	Primary Law	Legislative Power	Primary Law	Legislative Power	Primary Law
	Secondary Law		Secondary Law		Secondary Law		Secondary Law
	Tertiary Law		Tertiary Law		Tertiary Law		Tertiary Law
Executive Power	Federal Level	Executive Power	Federal Level	Executive Power	Federal Level	Executive Power	Federal Level
	State Level		State Level		State Level		State Level
	Communal Level		Communal Level		Communal Level		Communal Level
Judicial Power	Primary Court	Judicial Power	Primary Court	Judicial Power	Primary Court	Judicial Power	Primary Court
	Secondary Court		Secondary Court		Secondary Court		Secondary Court
	Tertiary Court		Tertiary Court		Tertiary Court		Tertiary Court



i. 2 Legal Systems in a Hierarchical Perspective (I)
For example: Primacy of European Union Law in Principle







i. 2 Legal Systems in a Hierarchical Perspective (I)

For example: Primacy of European Union Law in Principle



Art. 23 Grundgesetz für die Bundesrepublik Deutschland

(1) Zur Verwirklichung eines vereinten Europas wirkt die Bundesrepublik Deutschland bei der Entwicklung der Europäischen Union mit, demokratischen, rechtsstaatlichen, sozialen und föderativen Grundsätzen und dem Grundsatz der Subsidiarität verpflichtet ist und einen diesem im wesentlichen vergleichbaren Grundgesetz Grundrechtsschutz gewährleistet. Der Bund kann hierzu durch Gesetz mit Zustimmung des Bundesrates Hoheitsrechte übertragen. Für die Begründung der Europäischen Union sowie für Anderungen ihrer vertraglichen Grundlagen und vergleichbare Regelungen, durch die dieses Grundgesetz seinem Inhalt nach geändert oder ergänzt wird oder solche Änderungen oder Ergänzungen ermöglicht werden, gilt Artikel 79 Abs. 2 und 3. [...]

Art. 23 Basic Law for the Federal Republic of Germany

(1) With a view to establishing a united Europe, the Federal Republic of Germany shall participate in the development of the European Union that is committed to democratic, social and federal principles, to the rule of law and to the principle of subsidiarity and that guarantees a level of protection of basic rights essentially comparable to that afforded by this Basic Law. To this end the Federation may transfer sovereign powers by a law with the consent of the Bundesrat. The establishment of the European Union, as well as changes in its treaty foundations and comparable regulations that amend or supplement this Basic Law or make such amendments or supplements possible, shall be subject to paragraphs (2) and (3) of Article 79. [...]



i. 2 Legal Systems in a Hierarchical Perspective (I)

For example: Primacy of European Union Law in Principle



Art. 79 Grundgesetz für die Bundesrepublik Deutschland

[...]

- (2) Ein solches Gesetz bedarf der Zustimmung von zwei Dritteln der Mitglieder des Bundestages und zwei Dritteln der Stimmen des Bundesrates.
- (3) Eine Änderung dieses Grundgesetzes, durch welche die Gliederung des Bundes in Länder, die grundsätzliche Mitwirkung der Länder bei der Gesetzgebung oder die in den Artikeln 1 und 20 niedergelegten Grundsätze berührt werden, ist unzulässig.

Art. 79 Basic Law for the Federal Republic of Germany

[...]

(2) Any such law shall be carried by two thirds of the Members of the Bundestag and two thirds of the votes of the Bundesrat.

(3) Amendments to this Basic Law affecting the division of the Federation into *Länder*, their participation in principle in the legislative process, or the principles laid down in Articles 1 and 20 shall be inadmissible.



2. (Representative) Democracy, Branches of Government and the Seperation of Powers Doctrine (an Explanation DARMSTADT especially for Horizontal & Hierarchical Perspectives)

Flashback: Law as a System of Separated Powers 3 Sectors in a Vertical Perspective

- "Meta Lecture": An anglophone (World English) lecture with "in-depth strategies" incorporating German Law and German-European Legal Perspectives
- → Translingual* for the purpose of visible multilingualism** (Transsprachlich im Sinne von "Sichtbarer Mehrsprachlichkeit")
- (1) Legislative Legislative
- (2) Exekutive Executive
- (3) Judikative Judiciary/Jurisdiction

^{*}V. Schmid, Verwaltungsorganisation und moderne Kommunikationsmittel, in: K. Asada/ H. Assmann/Z. Kitagawa/J. Murakami,/M. Nettesheim(Hrsg.), Das Recht vor den Herausforderungen neuer Technologien, Mohr Siebeck, 2006, p. 71.

**D. Singelton/L. Aronin (Eds.): Twelve Lectures on Mutlilingualism Bristol, 2019.



a. Level 1 – FRG: Parliament as Supreme Source of Law (Art. 38 Abs. 1, 2 GG (German Basic Law))*



- (1) Die Abgeordneten des Deutschen Bundestages werden in allgemeiner, unmittelbarer, freier, gleicher und geheimer Wahl gewählt. Sie sind Vertreter des ganzen Volkes, an Aufträge und Weisungen nicht gebunden und nur ihrem Gewissen unterworfen.
- (2) Wahlberechtigt ist, wer das achtzehnte Lebensjahr vollendet hat; wählbar ist, wer das Alter erreicht hat, mit dem die Volljährigkeit eintritt.

[...]

- (1) Members of the German Bundestag shall be elected in general, direct, free, equal and secret elections. They shall be representatives of the whole people, not bound by orders or instructions and responsible only to their conscience.
- (2) Any person who has attained the age of eighteen shall be entitled to vote; any person who has attained the age of majority may be elected.

[...]

→ Legislation by Representation & Democratic Legitimization

→Legislature as First Power

*English translation (not authentic) retrieved from Federal Ministry of Justice and Consumer Protection (19/09/12).



b. Level 4 – UK: Parliament as Supreme Source of Law



(Representative) Democracy, Branches of Government and the Seperation of Powers Doctrine (an Explanation especially for Vertical & Hierarchical Perspectives)

Level 4 - Comparative Legal Analysis: United Kingdom (Judicial Power, Primary Court)

Update: 19/09/24



b. Level 4 – UK: Parliament as Supreme Source of Law





[2019] UKSC 41 On appeals from: [2019] EWHC 2381 (QB) and [2019] CSIH 49

JUDGMENT

R (on the application of Miller) (Appellant) v The Prime Minister (Respondent) Cherry and others (Respondents) v Advocate General for Scotland (Appellant) (Scotland)

before

Lady Hale, President
Lord Reed, Deputy President
Lord Kerr
Lord Wilson
Lord Carnwath
Lord Hodge
Lady Black
Lord Lloyd-Jones
Lady Arden
Lord Kitchin
Lord Sales

JUDGMENT GIVEN ON

24 September 2019

Heard on 17, 18 and 19 September 2019



b. Level 4 – UK: Parliament as Supreme Source of Law aa. Constitution



"Although the United Kingdom does not have a single document entitled "The Constitution", it nevertheless possesses a Constitution, established over the course of our history by common law, statutes, conventions and practice.* Since it has not been codified, it has developed pragmatically, and remains sufficiently flexible to be capable of further development. Nevertheless, it includes numerous principles of law, which are enforceable by the courts in the same way as other legal principles. In giving them effect, the courts have the responsibility of upholding the values and principles of our constitution and making them effective. It is their particular responsibility to determine the legal limits of the powers conferred on each branch of government, and to decide whether any exercise of power has transgressed those limits. The courts cannot shirk that responsibility merely on the ground that the question raised is political in tone or context."**

^{**}R (Miller) v The Prime Minister, Cherry & Ors v Advocate General for Scotland [2019] UKSC 41, UKSC 2019/0193, UKSC 2019/0193, p. 39, available at https://www.supremecourt.uk/cases/docs/uksc-2019-0192-judgment.pdf (19/09/25).



^{*}Highlighting by author.

b. Level 4 – UK: Parliament as Supreme Source of Law bb. Constitution – Two Fundamental Principles



Supreme Form of Law & Parliamentary accountability of the Government (Executive Power)

"Two fundamental principles of our constitutional law are relevant to the present case. The first is the principle of Parliamentary sovereignty: that laws enacted by the Crown in Parliament are the supreme form of law in our legal system, with which everyone, including the Government, must comply. [..]"*

^{*}R (Miller) v The Prime Minister, Cherry & Ors v Advocate General for Scotland [2019] UKSC 41, UKSC 2019/0193, UKSC 2019/0193, p. 41, available at https://www.supremecourt.uk/cases/docs/uksc-2019-0192-judgment.pdf (19/09/25).



b. Level 4 – UK: Parliament as Supreme Source of Law bb. Constitution – Two Fundamental Principles



"The same question arises in relation to a **second constitutional** principle, that of Parliamentary accountability, [...] "the conduct of government by a Prime Minister and Cabinet collectively responsible and accountable to Parliament lies at the heart of Westminster democracy". Ministers are accountable to Parliament through such mechanisms as their duty to answer Parliamentary questions and to appear Parliamentary committees, and through Parliamentary scrutiny of the delegated legislation which ministers make. By these means, the policies of the executive are subjected to consideration by the representatives of the electorate, the executive is required to report, explain and defend its actions, and citizens are protected from the arbitrary exercise of executive power."*

^{*}R (Miller) v The Prime Minister, Cherry & Ors v Advocate General for Scotland [2019] UKSC 41, UKSC 2019/0193, UKSC 2019/0193, p. 46, available at https://www.supremecourt.uk/cases/docs/uksc-2019-0192-judgment.pdf (19/09/25).



Summing up



From a German–European Union Perspective (who - author):

Legislature as First Power

→ in Level 1 – FRG – Primary Law

as well as

➤ in Level 4 – UK – Primary Law (Supreme Court Decision of 19/09/24)



B. Al(Law) or Al Law in the European Union



- Law Questionaire developed as "Academic Open Innovation" for Jurisprudence as a contribution to the Jean Monnet Centre of Excellence "EU in Global Dialogue" (CEDI) in 2017
- Cyberlaw: "Cyberlaw as we understand it is the law allocating chances and risks, rights and obligations in cyberspace"*
- Al Law as part of Cyberlaw
- → "Al(Law)" as "Soft Law"? (see Appendix (II) Literature)
- → or Al Law?

*https://www.cylaw.tu-darmstadt.de/home_2/reachoutenglish_1/reach_out.de.jsp (19/10/02).



I. A Content Perspective Excerpts of AlfE-COM-I-2018



- ➤ "The European Union (EU) should have a coordinated approach to make the most of the opportunities offered by AI and to address the new challenges that it brings. The EU can lead the way in developing and using AI for good and for aII, building on its values and its strengths."*
- ➤ "The <u>European Council of October 2017 stated</u> that the EU needs a sense of urgency to address emerging trends such as AI "while at the same time ensuring a high level of data protection, digital rights and ethical standards" and invited "the Commission to put forward a **European approach to artificial intelligence**."**



^{*}AlfE-COM-I-2018 p. 2 (2018).

^{**}AlfE-COM-I-2018 p. 3 (2018).

I. A Content Perspective "Key Takeaways" of EGPaIRfTAI-I-2019*



1. "Empower and protect humans and society

(1) Individuals need to be aware of and understand the capabilities, limitations and impacts of AI. (2) They must have the necessary education and skills to use the technology. (3) They need adequate safeguards from any adverse impact that AI might bring.

2. Take up a tailored approach to the Al landscape

Consider the "big picture", by looking at Al's overall impact on – and potential for – society, while simultaneously understanding the sensitivities of Al solutions in B2C, B2B and P2C contexts, both as digital products and services only, and as digital solutions embedded in physical systems.

3. Secure a Single European Market for Trustworthy Al

This is a complex and multifaceted undertaking which includes the avoidance of market fragmentation, for instance through the **harmonisation of legislation where appropriate**, while at the same time maintaining a high level of protection of individuals' rights and freedoms across all Member States.

*EGPaIRfTAI-I-2019, p. 47-48.



I. A Content Perspective "Key Takeaways" of EGPaIRfTAI-I-2019*



4. Enable AI ecosystems through Sectoral Multi-Stakeholder Alliances [...]

5. Foster the European data economy

Europe must foster and invest in a European data economy. [...] including provisions for data access, data sharing, use of data, re-use of data and data interoperability, all the while ensuring high privacy and data protection standards for individuals. [...]

6. Exploit the multi-faceted role of the public sector

The public sector [...] is uniquely placed to deliver and promote human-centric and Trustworthy AI services, leading by example, while ensuring a strong protection of fundamental rights. Public procurement-based innovation provides a great opportunity [...] that can optimise public services, but also to foster Trustworthy AI solutions amongst European companies of all sizes, and to create beneficial solutions in their own right for application elsewhere. Finally, the public sector is in a crucial position to bring all stakeholders together and maximise joint efforts towards our overarching aims.

*EGPalRfTAI-I-2019, p. 48.



I. A Content Perspective "Key Takeaways" of EGPaIRfTAI-I-2019*



8. Nurture education to the Fourth Power

[...] providing education on Al's capabilities, challenges and limitations, as well as teaching appropriate skills to deal with this, whilst ensuring an inter- and multidisciplinary perspective. Primary (1), secondary (2) and tertiary (3) education models need to take this into consideration, and continuous learning (4) – including on-job learning – must secure the re- and up-skilling of individuals for the new digital era in Europe, establishing a work-life-train balance.

9. Adopt a risk-based governance approach to Al and an ensure an appropriate regulatory framework

We advocate a risk-based approach that is focused on proportionate yet effective action to safeguard AI that is lawful, ethical and robust, and fully aligned with fundamental rights. A comprehensive mapping of relevant EU laws should be undertaken so as to assess the extent to which these laws are still fit for purpose in an AI-driven world. In addition, new legal measures and governance mechanisms may need to be put in place to ensure adequate protection from adverse impacts as well as enabling proper enforcement and oversight, without stifling beneficial innovation. [...]"

*EGPalRfTAI-I-2019, p. 49.



I. A Contentwise Perspective – Law in Action Excerpts of EGPaIRfTAI-I-2019



"Establishing an appropriate governance and regulatory framework"

"Ensuring Trustworthy AI necessitates an appropriate governance and regulatory framework. By appropriate, we mean a framework that promotes socially valuable AI development and deployment, ensures and respects fundamental rights, the rule of law and democracy, while safeguarding individuals and society from unacceptable harm. On 8 April 2019, we published our Ethics Guidelines that set out three components for Trustworthy AI: (1) lawful AI, (2) ethical AI and (3) robust AI. The Ethics Guidelines only deal with the two latter components, yet the first is equally crucial. Many of the principles set out in the Guidelines reflect existing EU law. This section complements the Guidelines by providing guidance on appropriate governance and regulatory approaches beyond voluntary guidance."*

*EGPalRfTAI-I-2019, p. 37.



II. 4 Sources of (European Union) Al(Law) or Al Law? An Institutional Perspective



(1) AlfE-COM-I-2018

Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions **Artificial Intelligence for Europe**, COM(2018) 237 final (2018/04/25)

(2) <u>EGEGfTAI-I-2019</u>

Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission: Ethics Guidelines for Trustworthy AI (2019/04/08)*

(3) EGDoAl-I-2019

Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission: A Definition of AI: Main capabilities and disciplines

Definition developed for the purpose of the AI HLEG's deliverables (2019/04/08)*

(4) EGPaIRfTAI-I-2019

Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission Policy and Investment Recommendations for Trustworthy AI (2019/06/26)

^{*}A first draft of this document which underwent an open consultaion was released in 2018/12. This current version took into account the feedback gathered.



II. 4 Sources of (European Union) Al(Law) or Al Law? An Institutional Perspective



2 "authors"

- ➤ 1 document from the Commission of the European Union (Communication)
- 3 documents from Independent AI HLEG



1. 1 Source of (European Union) Al(Law) or Al Law? An Institutional Perspective for the "Communication"



"European Commission" is an institution of the EU

Art. 13 TEU

1. The Union shall [...]

The Union's institutions shall be:

- the European Parliament,
- the European Council,
- the Council,
- the European Commission (hereinafter referred to as 'the Commission'),
- the Court of Justice of the European Union,
- the European Central Bank,
- the Court of Auditors.
- 2. Each institution shall act within the limits of the powers conferred on it in the Treaties, and in conformity with the procedures, conditions and objectives set out in them.[...]



2. 1 Source of (European Union) AI(Law) or AI Law?
A Hierarchical Perspective for the "Communication"



Relevant for this lecture only

- Primary Law
- Secondary Law



a. Level 2: EU & AI(Law) in a Hierarchical Perspective



Primary Law:

- Treaty on European Union (TEU)
- Charter of Fundamental Rights of the European Union (CFR)
- Treaty on the Functioning of the European Union (TFEU)



Secondary Law:

- Regulation (Art. 288 para 2 TFEU)
- Directive (Art. 288 para 3 TFEU)
- Decision (Art. 288 para 4 TFEU)
- Recommendations and Opinions (Art. 288 para 5 TFEU)



a. Level 2: EU & AI(Law) in a Hierarchical Perspective



Art. 288 AEUV

Für die Ausübung der Zuständigkeiten der Union nehmen die Organe Verordnungen, Richtlinien, Beschlüsse, Empfehlungen und Stellungnahmen an.

Die Verordnung hat allgemeine Geltung. Sie ist in allen ihren Teilen verbindlich und gilt unmittelbar in jedem Mitgliedstaat.

Die Richtlinie ist für jeden Mitgliedstaat, an den sie gerichtet wird, hinsichtlich des zu erreichenden Ziels verbindlich, überlässt jedoch den innerstaatlichen Stellen die Wahl der Form und der Mittel.

Beschlüsse sind in allen ihren Teilen verbindlich. Sind sie an bestimmte Adressaten gerichtet, so sind sie nur für diese verbindlich.

Die Empfehlungen und Stellungnahmen sind nicht verbindlich.

Art. 288 TFEU

To exercise the Union's competences, the institutions shall adopt regulations, directives, decisions, recommendations and opinions.

A regulation shall have general application. It shall be binding in its entirety and directly applicable in all Member States.

A directive shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods.

A decision shall be binding in its entirety. A decision which specifies those to whom it is addressed shall be binding only on them.

Recommendations and opinions shall have no binding force.



b. "Communication" of (European Union) AI(Law) or AI Law? Sui generis



Bottom Line (09/2019): European Union AI(Law) –

- "Guidelines" & "Recommendation of Al HLEG [not Art. 288 para 5 TFEU]"
- "Communication"

Grammatical Interpretation of Art. 288 TFEU: is the "Communication" legally binding?

→ "Legal act" (Rechtsakt) sui generis (not mentioned in this article)

The impact and legal effect of Communications from the European Commission is not easily discernible.*

- → In principle: Not legally binding
- → "Soft Law" → AI(Law)

^{*}Calliess/Ruffert/Ruffert, 5. Aufl. 2016, AEUV Art. 288 Rn. 98, 99; Grabitz/Hif/Nettesheim/Nettesheim, 67. EL Juni 2019, AEUV Art. 288 Rn. 211, 215 (see Appendix (II)).



3. 3 Sources of (European Union) Al(Law) or Al Law? An Institutional Perspective



Independent High Level Expert Group and Disclaimer of the "Commission":

"Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information. The contents of this working document are the sole responsibility of the High-Level Expert Group on Artificial Intelligence (Al HLEG). Although Commission staff facilitated the preparation of the Guidelines, the views expressed in this document reflect the opinion of the Al HLEG and may not in any circumstances be regarded as reflecting an official position of the European Commission."*

*EGEGfTAI-I-2019, Disclaimer upfront in the document preceding table of contents.



4. 4 Sources of (European Union) AI(Law) or AI Law? Summing Up



AI – but not specific AI Law (grammatical interpretation) – on European Union Level

→ Legally non-binding, either because released by the "High-Level Expert Group on AI" (not an EU Institution) or because the Communication from the European Commission is not a legal instrument as listed in Art. 288 TFEU.

→ AI(Law) as "Soft Law"



1. 2 Definitions of Al

Communication & "Updated Definition" by Expert Group



"Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals.

AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)."*

"Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions.

As a scientific discipline, AI includes several approaches and techniques, such as machine learning (of which deep learning and reinforcement learning are specific examples), machine reasoning (which includes planning, scheduling, knowledge representation and reasoning, search, and optimization), and robotics (which includes control, perception, sensors and actuators, as well as the integration of all other techniques into cyber-physical systems)."**



^{*}AlfE-COM-I-2018 p. 1.

^{**}EGEGDoAI-I-2019 p. 6.

2. Definitions of Ethics and Moral



"Ethics is an academic discipline which is a subfield of philosophy. In general terms, it deals with questions like "What is a good action?", "What is the value of a human life?", "What is justice?", or "What is the good life?". In academic ethics, there are four major fields of research: (i) Meta-ethics, mostly concerning the meaning and reference of normative sentence, and the question how their truth values can be determined (if they have any); (ii) normative ethics, the practical means of determining a moral course of action by examining the standards for right and wrong action and assigning a value to specific actions; (iii) descriptive ethics, which aims at an empirical investigation of people's moral behaviour and beliefs; and (iv) applied ethics, concerning what we are obligated (or permitted) to do in a specific (often historically new) situation or a particular domain of (often historically unprecedented) possibilities for action. Applied ethics deals with real-life situations, where decisions have to be made under time-pressure, and often limited rationality. Al Ethics is generally viewed as an example of applied ethics and focuses on the normative issues raised by the design, development, implementation and use of Al.

Within ethical discussions, the terms "moral" and "ethical" are often used. The term "moral" refers to the concrete, factual patterns of behaviour, the customs, and conventions that can be found in specific cultures, groups, or individuals at a certain time. The term "ethical" refers to an evaluative assessment of such concrete actions and behaviours from a systematic, academic perspective."*

*EGEGfTAI-I-2019-2019, p.37.



2. Definition of Ethical AI



"In this document, ethical AI is used to indicate the development, deployment and use of AI that ensures compliance with ethical norms, including fundamental rights as special moral entitlements, ethical principles and related core values. It is the second of the three core elements necessary for achieving Trustworthy AI."*

*EGEGfTAI-I-2019, p.37.



3. 3 Components of "Trustworthy AI" - LER



"Trustworthy AI has three components:

- (1) it should be lawful, ensuring compliance with all applicable laws and regulations
- (2) it should be ethical, demonstrating respect for, and ensure adherence to, ethical principles and values and
- (3) it should be robust, both from a technical and social perspective, since, even with good intentions, AI systems can cause unintentional harm.

Trustworthy AI concerns not only the trustworthiness of the AI system itself but also comprises the trustworthiness of all processes and actors that are part of the system's life cycle."*

*EGEGfTAI-I-2019, p.38.



3. 3 Components of "Trustworthy AI" – FRA



Selected Excerpts of EGEGfTAI-I-2019

Chapter I: Foundations	 Develop, deploy and use AI systems in a way that adheres to the 4 ethical principles. Pay particular attention to situations involving more vulnerable groups [] and to situations which are characterised by asymmetries of power or information []. Acknowledge that [] AI systems also pose certain risks and may have a negative impact, [](e.g. on democracy, the rule of law and distributive justice, or on the human mind itself.) Adopt adequate measures [].
Chapter II: Realisation	 Ensure that the development, deployment and use of AI systems meets the 7 key requirements. Consider technical and non-technical methods to ensure the implementation of requirements. Foster research and innovation. Communicate, in a clear and proactive manner, [] about the AI system's capabilities and limitations[]. Be transparent about the fact that they are dealing with an AI system. Facilitate the traceability and auditability of AI systems, Involve stakeholders throughout the AI system's life cycle. Be mindful that there might be fundamental tensions between different principles and requirements. Continuously identify, evaluate, document and communicate these tradeoffs and their solutions.
Chapter III: Assessment	Adopt a Trustworthy AI assessment list when developing, deploying or using AI systems, and adapt it to the specific use case in which the system is being applied.



4. Guidance for Lawfulness Welcomed



Develop guidance for stakeholders on how to ensure compliance with Trustworthy Al's first component, lawful Al, for each of the seven requirements.* In the Guidelines, guidance is provided on how to ensure the implementation of ethical and robust Al for each of the seven requirements. However, as those requirements are also already captured by a number of legal obligations, and as legal uncertainty exists regarding the extent to which such legal obligations are already in place, a guidance document on this first component [author: lawfulness] would be welcomed.**



^{*}To 7 Key Requirements see S. 69, 70.

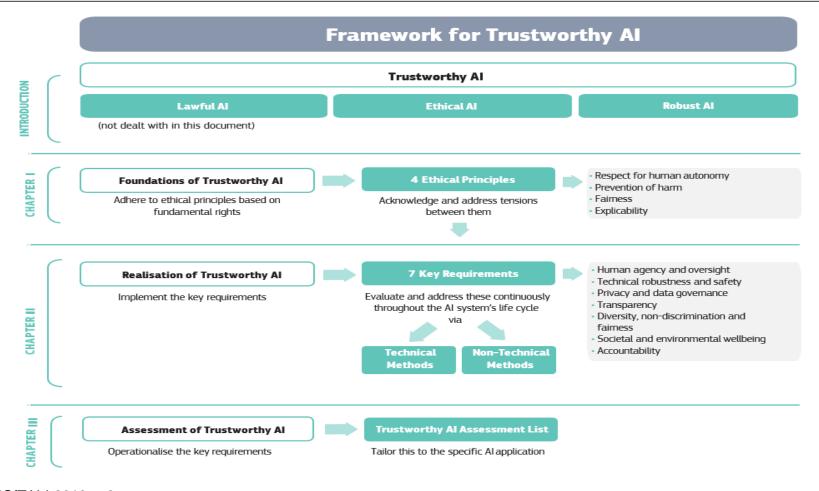
^{**}EGPaIRfTAI-I-2019, p. 43 para 30.6.

IV. Project Management:

The Augmentation/Virtualization of Realworld with Al



1. Graph of the Framework in the Guidelines



*EGEGfTAI-I-2019, p.8.



2. Framework with Guidance from the Author



A presentation of the table of contents of the framework as preferred by the author:

- 3 components/core elements: lawful, ethical and robust
- Description of Al augmentation/virtualization of Realworld:
 - (1) Foundations

 LER-Formula

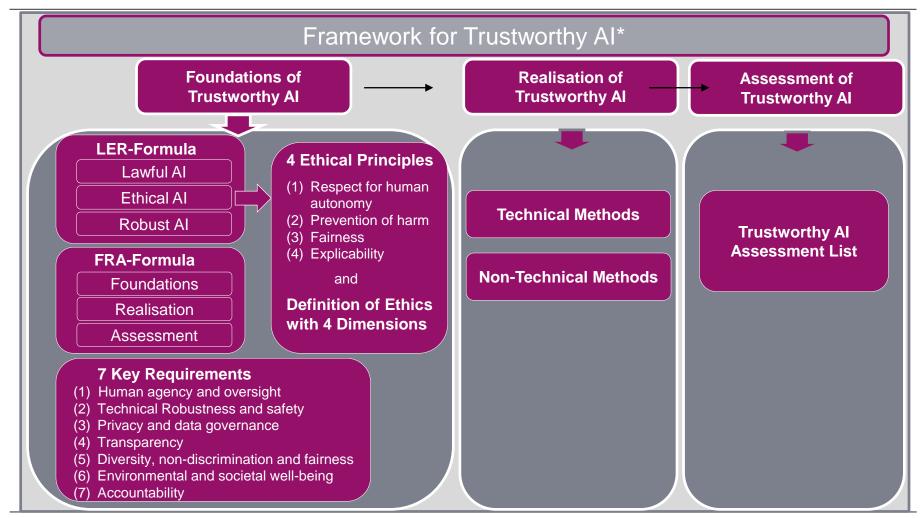
 FRA-Fromula

 7-Key Requirements
 - (2) Realisation
 Technical Methods
 Non-Technical Methods
- (3) Assessment/Control (details in preparation pilot version existing)*
 *EGEGITAI-I-2019, p.26ff.



Framework with Graph from the Author Foundations: LER-,FRA-Formula & 7 Key Requirements



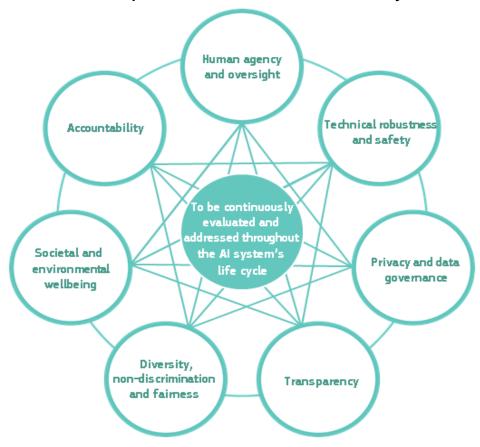




4. Realisation: 7 Key Requirements for "Trustworthy AI" EGEGfTAI-I-2019, p.15



Interrelationship of Seven Requirements for Trustworthy AI*



*EGEGfTAI-I-2019, p.15.



V. Title of the Course: "AI & Humanity" – 4 Translations for Humanity in German



The end is the beginning: In a multilingual analysis, AI is relevant for humanity, meaning:

- Menschheit
- Menschlichkeit
- Mitmenschlichkeit
- Humanität*
- → Ignoring this multilingual perspective is putting us in danger of losing details in translation
- → to be continued: this was the first AI(Law) lecture preparing for the future: "The idea that compliance with norms can be implemented into the design of the AI system is key to this method."**



^{*}https://www.dict.cc/?s=humanity (19/09/26).

^{**}EGEGfTAI-I-2019, p. 21.

"Legality, (IT) Security & Privacy by Design"



"The idea that compliance with norms can be implemented into the design of the AI system is key to this method."*

Your critique is input for me:

schmid@cylaw.tu-darmstadt.de

*EGEGfTAI-I-2019, p. 21.



Fachgebiet Öffentliches Recht Prof. Dr. Viola Schmid, LL.M. (Harvard)



Pioneering in Cyberspace and (Cyber)Law - Al(Law) -

(WiP – Version 3.0 – Part III)

Legal Resources for Research in Cyberspace (LR²C)



Pioneering in Cyberspace and (Cyber)Law – Al(Law)

(WiP – Version 3.0)



Part I:	 Who? What? When? How? Where? Why?
Part II:	(Global) Law (as a Matrix)Al(Law)?
Part III:	Legal Resources for Research in Cyberspace (LR ² C)
Appendix:	 Appendix (I): Lecture from 19/09/13 - Version 1.2 Appendix (II): Basics in Legal Commentary / Literature – "Communication" (not legally binding in principle)



Part III: Agenda & Table of Contents



- 1. Level 1: FRG & Legislative Power
- 2. Level 1: FRG & Legislative Power Land law (Glocal)
- 3. Level 1: FRG & Judicial Power
 - a. Cyberlaw in German Primary Law: Grundgesetz (GG)
 - b. Methods of Interpretation for the 2nd and 3rd Power
- 4. Level 2: EU & "Legislative Power"
- 5. Level 2: EU & Judicial Power
- 6. Level 1: FRG & Judicial Power 2005 & 2019 Communication Traffic Data Retention





- Knowledge of Global Law Matrix is prerequisite for a legal research producing authentic and reliable results
- Lawfulness is an integral part of a "Trustworthy AI" (of the AI HLEG)
- Cyberspace enables a "New Legal Accessibility"* (internationally and in real time)
- → Pioneering Law in Cyberspace → Exploring Law according to LRCR
- → Some "demonstrators"*:



^{*}Author's terminology.

1. Level 1: FRG & Legislative Power



Level 1: Law of the Federal Republic of Germany (Deutsches Recht) [Horizontal] & Legislative Power [Vertical] & Primary Law [Hierarchical]

→ Basic Law for the Federal Republic of Germany (without authenticity)

"Translations of these materials into languages other than German are intended solely as a convenience to the non-German-reading public. Any discrepancies or differences that may arise in translations of the official German versions of these materials are not binding and have no legal effect for compliance or enforcement purposes."*

Level 1: Law of the Federal Republic of Germany (Deutsches Recht) [Horizontal] & Legislative Power [Vertical] & Secondary Law [Hierachical]

→ Other "Statutes/Ordinances" (without authenticity and a claim to completeness)



^{*}Publication on the webpage of the Federal Ministry of Justice and Consumer Protection.





Level 1: Law of the Federal Republic of Germany (Deutsches Recht) [Horizontal] & Legislative Power [Vertical] & Primary and Secondary Law [Hierachical]

Art. 31 Basic Law (GG) [Supremacy of federal law]

Federal law shall take precedence over *Land* law.

- Hessen is one of sixteen states ("Länder") in the Federal Republic of Germany.
- ➤ Hessen Law is not available in english (09/2019)



3. Level 1: FRG & Judicial Power



Level 1: Law of the Federal Republic of Germany (Deutsches Recht) [Horizontal] & Judicial Power [Vertical] & Primary Law [Hierachical]

- ➤ The German Federal Constitutional Court presents a list of 323 translated decisions/abstracts on their website, the oldest dating back to 1977.*
- "Demonstrator" "Volkszählungsurteil":
 Abstract of the German Federal Constitutional Court's Judgment of
 15 December 1983, 1 BvR 209, 269, 362, 420, 440, 484/83 [CODICES]
 - → right to "informational self-determination" (Art. 2 para 1, 1 para 1 Basic Law)

Art. 1 Basic Law (GG)

(1) Human dignity shall be inviolable. To respect and protect it shall be the duty of all state authority. [...]

Art. 2 Basic Law (GG)

(1) Every person shall have the right to free development of his personality insofar as he does not violate [...] the constitutional order [...]. [...]

^{*}https://www.bundesverfassungsgericht.de/SiteGlobals/Forms/Suche/EN/Entscheidungensuche_Formular.html?language_=en (19/10/02).



- 3. Level 1: FRG & Judicial Power
- a. Cyberlaw in German Primary Law: Grundgesetz (GG)



- Cyberspace, Internet Privacy (auch kein Datenschutz, kein Internet) in traditional law grammatically (exception Art. 91c GG) not discernible
- > Reason and History: Grundgesetz (Basic Law) dates from 1949
- → Two options:
 - Traditional law does not regulate cyberspace or
 - 2. Via interpretation traditional law is extended to granting rights and obligations in cyberspace (Bundesverfassungsgericht, "Volkszählungsurteil"* since 1983)

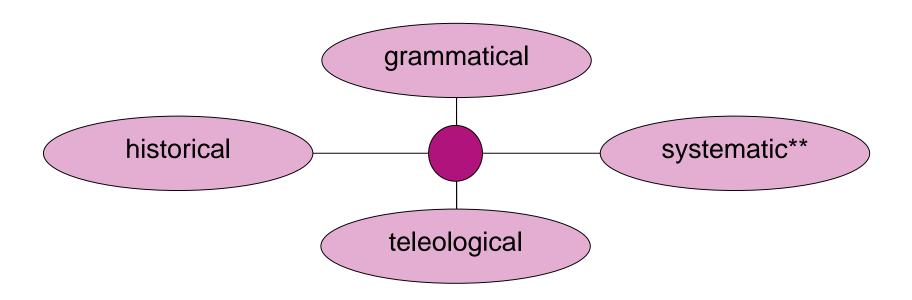
*BVerfG, 15.12.1983 - 1 BvR 209/83, 1 BvR 484/83, 1 BvR 440/83, 1 BvR 420/83, 1 BvR 362/83, 1 BvR 269/83, BVerfGE 65, 1.



3. Level 1: FRG & Judicial Power

b. Methods of Interpretation for the 2nd and 3rd Power





The "historical interpretation" is not common on the EU level, see M. Kellerbauer/ M. Klamert/ J. Tomkin, Commentary on The EU Treaties and the Charter of Fundamental Rights, p. 178, 2018.

**The term "systematic" is common – even if perhaps not persuasive. The author would prefer "systematical".



^{*}Grammatical, systematic and teleological as used by <u>European Patent Office</u>; see K. Lenaerts/ J. A. Gutiérrez-Fons, To Say What the Law of the EU Is: Methods of Interpretation and the European Court of Justice, <u>Working Paper AEL 2013/9</u>, 2013; also <u>Art. 31 ff. Vienna Convention on the Law of Treaties</u>, 23 May 1969, United Nations, Treaty Series, Vol. 1155, p. 331;





- Treaty on European Union (Consolidated version from 01.05.2019)*
- Treaty on the Functioning of the European Union (Consolidated version from 01.05.2019)*
- Charter of Fundamental Rights of the European Union (Published in the Official Journal of the European Union on 07.06.2016)*

*19/09/20



5. Level 2: EU & Judicial Power



- ➤ The official website of the Court of Justice of the European Union
- has a search option of the "official publication of the case-law of the jurisdiction" on their starting page or
- allows following the link to the InfoCuria database.
- PDF versions of case-law available on EUR-Lex.*

*Site managed by the Publications Office of the European Union (19/09/20).



Level 1: FRG & Judicial Power – 2005 & 2019 Communication Traffic Data Retention



The German–European Union Experience with Lawlessness 2005

Level 1 – FRG – Judicial Power – Tertiary Court ("Amtsgericht" Darmstadt, Germany)

Source in German:

V. Schmid, CyLaw-Report I: "Speicherung von IP-Adressen" (2008).

2019/09/25

➤ Art. 267 TFEU (preliminary ruling) initiated by German Federal Administrative Court, <u>BVerwG 6 C 12.18 - Beschluss vom 25. September 2019</u> (Source in German - Press Release)



Appendix (I)



Pioneering in Cyberspace and (Cyber)Law

(09/2019 - WiP - Version 1.2)

for the Course

AI & Humanity: The Ethics of Data Science

Frankfurt School of Finance & Management 2019/09/13



Pioneering in Cyberspace and (Cyber)Law – Al(Law)

(WiP – Version 3.1)



Part III:	 Where? Why? (Global) Law (as a Matrix) Al(Law)? Legal Resources for Research in Cyberspace (LR²C) Lecture History: Removal of Appendix (I) –
Appendix	Lecture from 19/09/13 - Version 1.2 > "Appendix (II)":



"Appendix (II)" Basics in Legal Commentary – Communication (not legally binding in principle)



Zur Rechtswirkung wie Anfechtbarkeit von "Mitteilungen":

"Die Aufzählung der Rechtsakte in Art. 288 ist nicht abschließend.³⁶⁶ Zu den hier bezeichneten Rechtsakten treten eine Fülle ungekennzeichneter Rechtsakte oder *Rechtsakte sui generis*. Hierunter werden alle Handlungen der Unionsorgane zusammengefaßt, die nicht den in Art. 288 "vertypten" Rechtshandlungen zugeordnet werden können. Nur mit erheblichem empirischem Aufwand ist es gelungen, Ordnungsstrukturen in diese Fülle zu bringen, die sich beim ersten Eindruck als chaotisch darstellt.³⁶⁷ Schon vorher hat das Schrifttum versucht, diese Rechtshandlungen des *kooperativen* Gemeinschaftsrechts im einzelnen zu kategorisieren und aus einer Einteilung der Rechtsakte Folgerungen zu ziehen.³⁶⁹"

Calliess/Ruffert/Ruffert, 5. Aufl. 2016, AEUV Art. 288 Rn. 98, 99

"[...] Als weitere Handlungsform sind in der Praxis **Mitteilungen** weit verbreitet. Diese sind im AEUV nicht ausdrücklich vorgesehen und sind rechtlich unverbindlich.⁴ Mitteilungen werden vor allem von der Kommission erlassen und richten sich an andere Unionsorgane, gegebenenfalls auch an Mitgliedstaaten.⁵ Sie werden in der Regel als Mitteilung, Grünbuch, Weißbuch oder Strategie bezeichnet. Sie können rechtsgestaltende Wirkung haben und daher angreifbar sein (siehe unten Rdnr. 215)."

Grabitz/Hilf/Nettesheim/Nettesheim, 67. EL Juni 2019, AEUV Art. 288 Rn. 211



"Appendix (II)" Basics in Legal Commentary – Communication (not legally binding in principle)



"Soweit die vorstehend beschriebenen Handlungen auf rechtsgestaltende Wirkung angelegt sind, können sie (mit Ausnahme der uneigentlichen Ratsbeschlüsse) vor dem EuGH angegriffen werden; dies gilt auch für nicht-privilegierte Kläger, wenn und soweit ihre Rechtswirkungen diese hinreichend intensiv und unmittelbar berühren. Im Hinblick auf Rechtsakte, die nicht als Verordnung, Entscheidungen oder Richtlinien qualifiziert werden können, ist nach Auffassung des EuGH Art. 263 AEUV weit auszulegen, da er allgemein von "Handlungen" des Rates, der EZB, des Parlaments und der Kommission spricht. Der Rechtsschutz ist damit auch für die sonstigen Rechtshandlungen gewährleistet: 2 "Indem dieser Artikel die Anfechtungsklage, die er den Mitgliedstaaten und den Organen eröffnet, lediglich für die – nach Art. 189 [heute: Art. 263 AEUV] letzter Absatz nichtverbindlichen – Empfehlungen oder Stellungnahmen ausschließt, geht er davon aus, dass die Klage gegen alle Handlungen der Organe gegeben ist, die dazu bestimmt ist, eine Rechtswirkung zu erzeugen. Diese Klage soll dazu dienen, gem. der Vorschrift von Art. 164 [heute: Art. 19 EUV] die Wahrung des Rechts bei der Auslegung und Anwendung des Vertrages zu sichern. Eine die Zulässigkeitsvoraussetzung dahin einschränkende Auslegung, dass die Klage nur gegen die in Art. 189 [heute: 288] genannten Arten von Handlungen gegeben wäre, würde diesem Ziel zuwiderlaufen. Die Anfechtungsklage muss daher gegen alle Handlungen der Organe, die dazu bestimmt sind, Rechtswirkungen zu erzeugen, ohne Unterschied ihrer Rechtsnatur oder Form zulässig sein." Erforderlich ist in diesem Zusammenhang, dass sich in einer Handlung der Wille der Unionsorgane zur Rechtsgestaltung ausdrückt, diese im Amtsblatt veröffentlicht wird und damit tatsächliche Rechtswirkungen nach außen entfalten kann. 4 [...]

Grabitz/Hif/Nettesheim/Nettesheim, 67. EL Juni 2019, AEUV Art. 288 Rn. 215



"Appendix (II)" Basics in Legal Literature – Communication (not legally binding in principle)



1 Source without claim to exhaustivity:

M. Knauff, Der Regelungsverbund: Recht und Soft Law im Mehrebenensystem, 2010, S. 325 – 238.

