

# *Legal Aspects of Anonymization and Pseudonymization*

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## Module 2: Principles of the GDPR

Bud P. Bruegger

# Outline Module 2

## The Principles of the GDPR

### – Intro and History

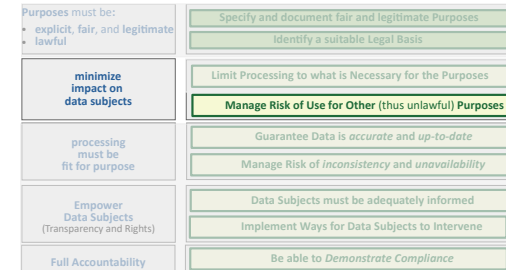
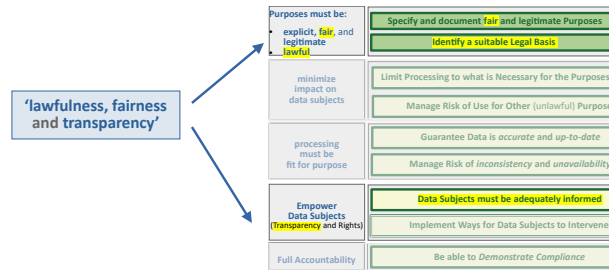
### – Definition and Mapping

### – Risk in the GDPR

- which kind of Risk is AnoMed concerned with?

### – Understanding the *Risk of Use for Other Purposes*

- in Terms of Principles



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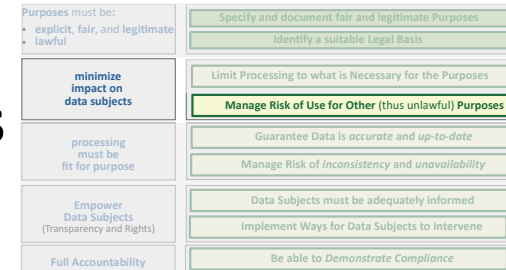
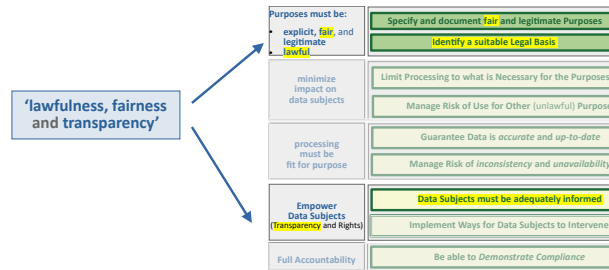
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# *Principles of Data Protection*

- **Art. 5:** *“Principles relating to processing of personal data”*
- **Art. 24:** *“Responsibility of the controller”* → what to do?
  - “..the controller shall **implement** appropriate **technical and organisational measures**..
- **Art. 25(1):** *“Data protection by design”* → how to do it?
  - “**implement** appropriate **technical and organisational measures**, which are designed **to implement data-protection principles**”

# *Principles in Art. 5*

- **Description and name(s)**
  - Art 5(1)(a): ‘lawfulness, fairness and transparency’
  - Art 5(1)(b): ‘purpose limitation’
  - Art 5(1)(c): ‘data minimisation’
  - Art 5(1)(d): ‘accuracy’
  - Art 5(1)(e): ‘storage limitation’
  - Art 5(1)(f): ‘integrity and confidentiality’
  - Art 5(2): ‘accountability’

# History of Principles

<b>Council of Europe</b> <b>Resolution (74) 29</b>	<b>OECD</b> <b>OECD/LEGAL/0188</b> <i>Adherents: all EU M.S. except Malta and Romania</i>	<b>EU</b> <b>Data Protection Directive</b>	<b>EU</b> <b>GDPR</b>
1974	1980	1995	2016
<b>Lawfulness, Fairness</b> [2.a], <b>Transparency</b> [3.a, 5.]	<b>Collection Limitation &amp; Openness</b> (lawful, fair & with knowledge of data subject)	<b>Lawfulness, Fairness</b> [Art. 6(1)(a)]	<b>Lawfulness, Fairness &amp; Transparency</b> [Art. 6(1)(a)]
<b>Purpose Limitation</b> [3.c]	<b>Purpose Specification &amp; Use Limitation</b>	<b>Purpose Limitation</b> [Art. 6(1)(b)]	<b>Purpose Limitation</b> [Art. 5(1)(b)]
<b>Data Minimization</b> [2.c] (appropriate & relevant)	<b>Data Quality</b> (relevant & necessary)	<b>Data Minimization</b> [Art. 6(1)(c)] (adequate, relevant & not excessive)	<b>Data Minimization</b> [Art. 5(1)(c)] (adequate, relevant & necessary)
<b>Accuracy</b> [2.b]	<b>Data Quality</b> (accurate, complete, up to date)	<b>Accuracy</b> [Art. 6(1)(d)]	<b>Accuracy</b> [Art. 5(1)(d)]
<b>Storage Limitation</b> [4.] (storage period)	--	<b>Storage Limitation</b> [Art. 6(1)(a)] (storage period, identification)	<b>Storage Limitation</b> [Art. 5(1)(e)] (storage period, identification)
<b>Confidentiality</b> [6.]	<b>Security Safeguards</b>	(Art. 17: Security of Processing)	<b>Integrity &amp; Confidentiality</b> [Art. 5(1)(f)]
--	<b>Individual Participation</b> (rights of access, erasure, rectification)	(Section V: <i>right of access</i> , Section VII: <i>right to object</i> )	(Chapter 3: <i>rights of the data subject</i> )
--	<b>Accountability</b> (privacy management, demonstrate compliance, breach notification)	<b>Accountability</b> [Art. 6(2)] (ensure compliance)	<b>Accountability</b> [Art. 5(2)] (responsible & demonstrate compliance)

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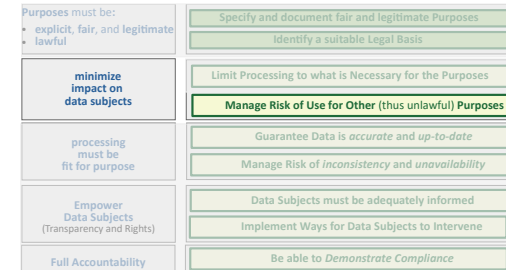
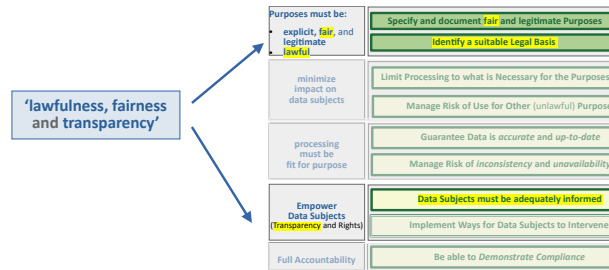
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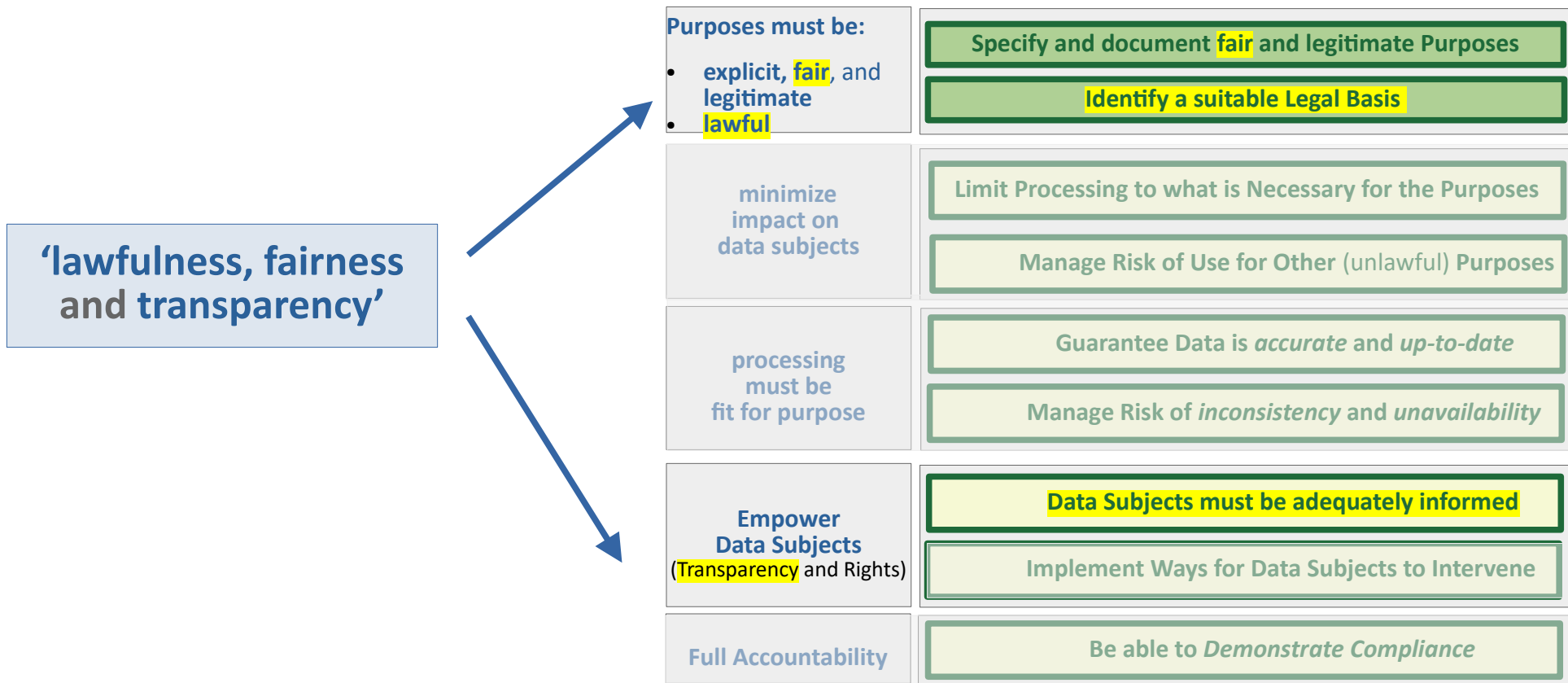
- in Terms of Principles



# ‘lawfulness, fairness and transparency’

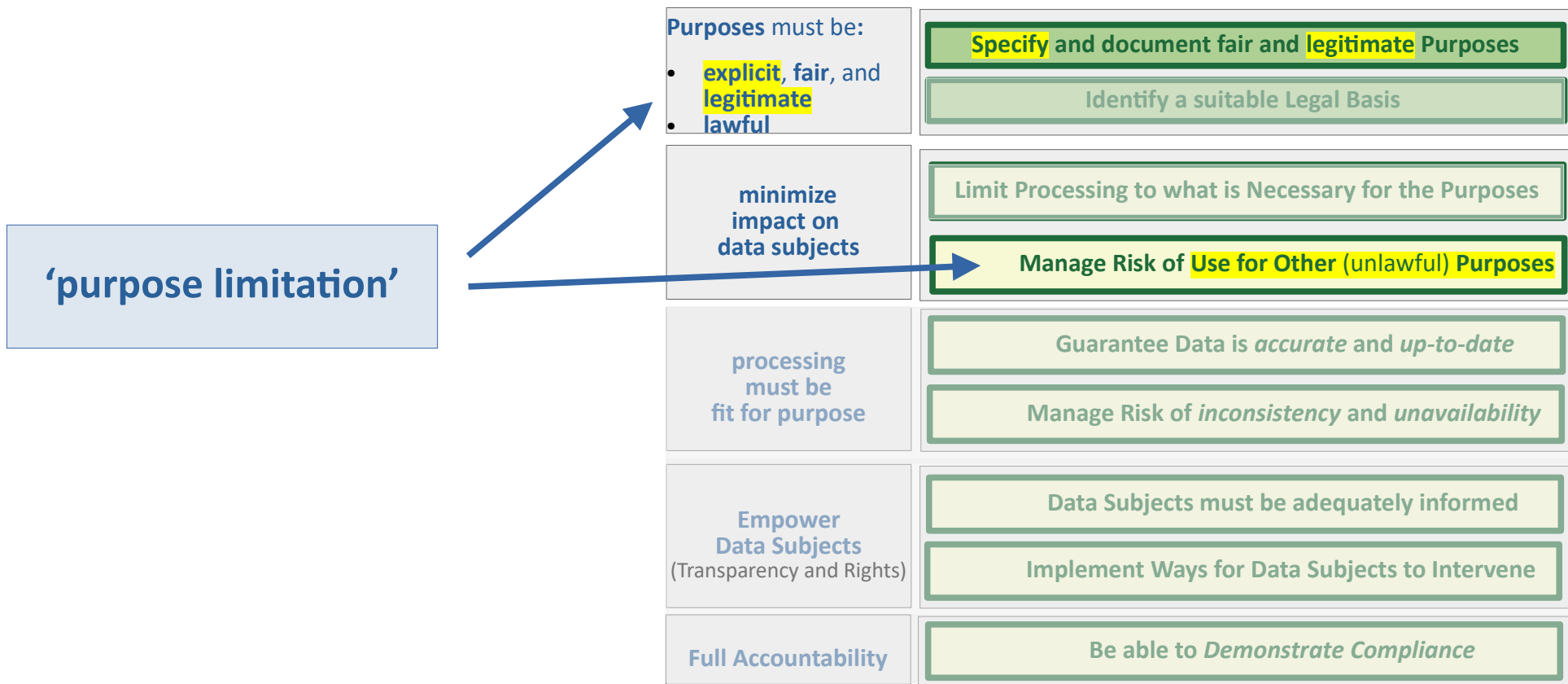
- “Personal data shall be”
  - “processed **lawfully, fairly** and in a **transparent** manner in relation to the data subject”.
- **Lawful** is defined in **Art. 6**.
- **Fair** is not further defined.
- **Transparent** is defined in **Art. 12-14**.





# ‘purpose limitation’

- “Personal data shall be”
  - “collected for **specified, explicit** and **legitimate purposes** and”
  - “**not** further **processed** in a manner that is **incompatible with those purposes.**”
  - .. what are compatible purposes ..
- 2 aspects:
  - purposes: **specified, explicit, legitimate**
  - **no** processing for **incompatible purposes**



# ‘data minimisation’

- “Personal data shall be”
  - “**adequate, relevant** and **limited** to what is **necessary** in relation to the **purposes** for which they are processed.”

## 'data minimisation'

less data → less impact



Purposes must be:

- explicit, fair, and legitimate
- lawful

Specify and document fair and legitimate Purposes

Identify a suitable Legal Basis

minimize  
impact on  
data subjects

Limit Processing to what is Necessary for the Purposes

Manage Risk of Use for Other (unlawful) Purposes

processing  
must be  
fit for purpose

Guarantee Data is *accurate* and *up-to-date*

Manage Risk of *inconsistency* and *unavailability*

Empower  
Data Subjects  
(Transparency and Rights)

Data Subjects must be adequately informed

Implement Ways for Data Subjects to Intervene

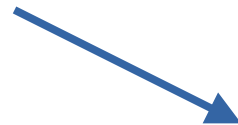
Full Accountability

Be able to *Demonstrate Compliance*

# “accuracy”

- “Personal data shall be”
  - “**accurate** and, where necessary, kept **up to date**; “
  - “every reasonable step must be taken to ensure that personal **data that are inaccurate**, having regard to the **purposes** for which they are processed, are **erased** or **rectified** without delay.”
- 2 aspects:
  - **accurate** and **up-to-date** (relative to purposes)
  - otherwise: **erased** or **rectified**

# 'accuracy'



Purposes must be:

- explicit, fair, and legitimate
- lawful

Specify and document fair and legitimate Purposes

Identify a suitable Legal Basis

minimize  
impact on  
data subjects

Limit Processing to what is Necessary for the Purposes

Manage Risk of Use for Other (unlawful) Purposes

processing  
must be  
**fit for purpose**

Guarantee Data is **accurate** and **up-to-date**

Manage Risk of *inconsistency* and *unavailability*

Empower  
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Data Subjects must be adequately informed

Implement Ways for Data Subjects to Intervene

Full Accountability

Be able to *Demonstrate Compliance*

# “storage limitation”

- “Personal data shall be”
  - “**kept in a form which permits identification** of data subjects for **no longer than is necessary** for the purposes for which the personal data are processed;”
  - “personal data may be **stored for longer periods** insofar as ...”
- 2 aspects:
  - **identification**
    - **pseudonymization**
    - **anonymization**
  - **storage period** (deletion)



## 'storage limitation'

- no identification → less impact
- deletion → less impact
- cannot be used for other purposes

Purposes must be:

- explicit, fair, and legitimate
- lawful

Specify and document fair and legitimate Purposes

Identify a suitable Legal Basis

minimize  
impact on  
data subjects

Limit Processing to what is Necessary for the Purposes

Manage Risk of Use for Other (unlawful) Purposes

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Implement Ways for Data Subjects to Intervene

Full Accountability

Be able to *Demonstrate Compliance*

# “integrity and confidentiality”

- “Personal data shall be”
  - “processed in a manner that **ensures appropriate security** of the personal data, including **protection against unauthorised or unlawful processing** and against **accidental loss, destruction or damage**, using appropriate technical or organisational measures.”
- Context: **information security**
- Aspects:
  - **confidentiality**
  - **availability** (Art. 32 adds “resilience”)
  - **integrity**

**‘integrity and confidentiality’**

need to know disclosure

→ less impact

→ cannot be used for other purposes

Purposes must be:

- explicit, fair, and legitimate
- lawful

minimize impact on data subjects

processing must be fit for purpose

Empower Data Subjects  
(Transparency and Rights)

Full Accountability

Specify and document fair and legitimate Purposes

Identify a suitable Legal Basis

Limit Processing to what is Necessary for the Purposes

Manage Risk of Use for Other (unlawful) Purposes

Guarantee Data is accurate and up-to-date

Manage Risk of inconsistency and unavailability

Data Subjects must be adequately informed

Implement Ways for Data Subjects to Intervene

Be able to Demonstrate Compliance

# “accountability”

- “The **controller** shall be **responsible** for, and be **able to demonstrate compliance with**, paragraph 1 ” [i.e., **the principles**]
- 2 Aspects:
  - **compliance with Principles**
  - **ability to demonstrate it**

# 'accountability'

Purposes must be:

- explicit, fair, and legitimate
- lawful

Specify and document fair and legitimate Purposes

Identify a suitable Legal Basis

minimize  
impact on  
data subjects

Limit Processing to what is Necessary for the Purposes

Manage Risk of Use for Other (unlawful) Purposes

processing  
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Guarantee Data is *accurate* and *up-to-date*

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Empower  
Data Subjects  
(Transparency and Rights)

Data Subjects must be adequately informed

Implement Ways for Data Subjects to Intervene

**Full Accountability**

Be able to **Demonstrate Compliance**

# Summary

- **“Flowchart” contains all Principles**
- **Principles motivate Flowchart**
  - but not 1:1 mapping
  - “untangling” necessary to create logical flow

# Outline Module 2

## The Principles of the GDPR

### – Intro and History

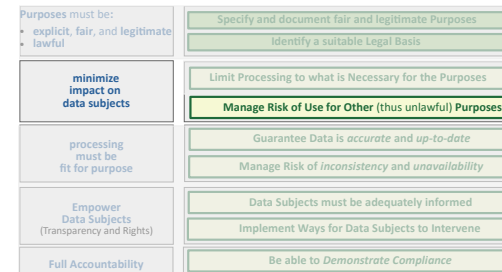
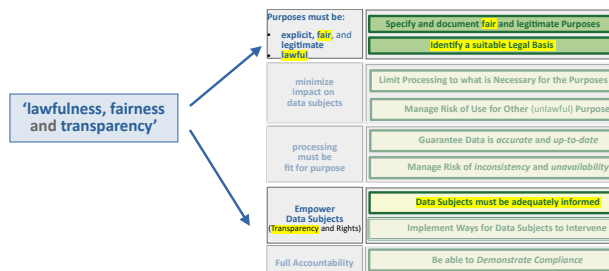
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- which kind of Risk is AnoMed concerned with?

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- in Terms of Principles



# GDPR takes a risk-based approach

## Art. 24 “Responsibility of the controller”

- Taking into account ... as well as the **risks of varying likelihood and severity** for the rights and freedoms of natural persons, ...

## Art. 25(1) “Data protection by design”

- Taking into account ... as well as the **risks of varying likelihood and severity** for rights and freedoms of natural persons posed by the processing, ...

## Art. 36(7)(c) “Data protection impact assessment”

- an **assessment of the risks** to the rights and freedoms of data subjects..



# Proportionality of Risk and Protection

**Risk**



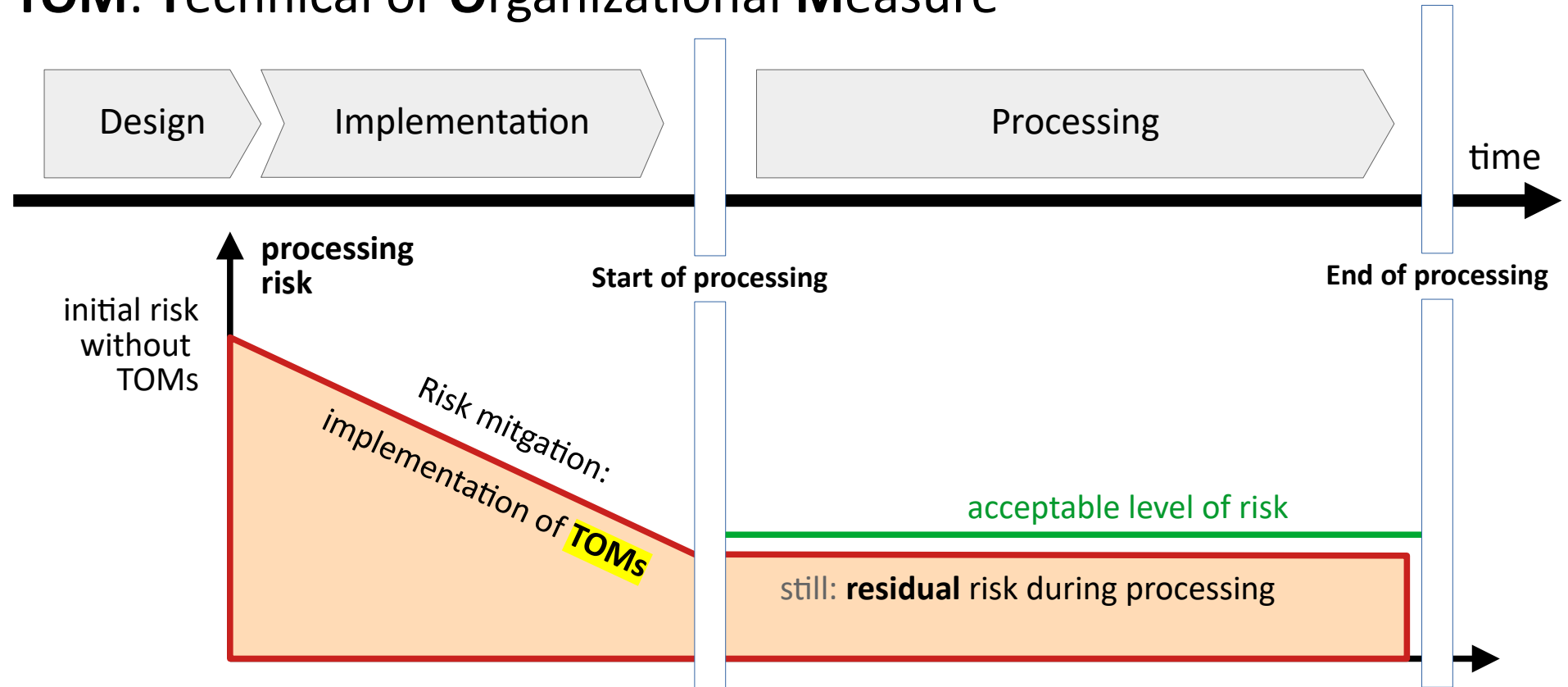
**Technical and  
Organizational  
Measures**

**(TOMs)**

(effort put into protection)

# Mitigation of Risk with TOMs

**TOM: Technical or Organizational Measure**



# Proportionality of Risk and Protection

GDPR:

Risks to the *rights and freedoms of natural persons*

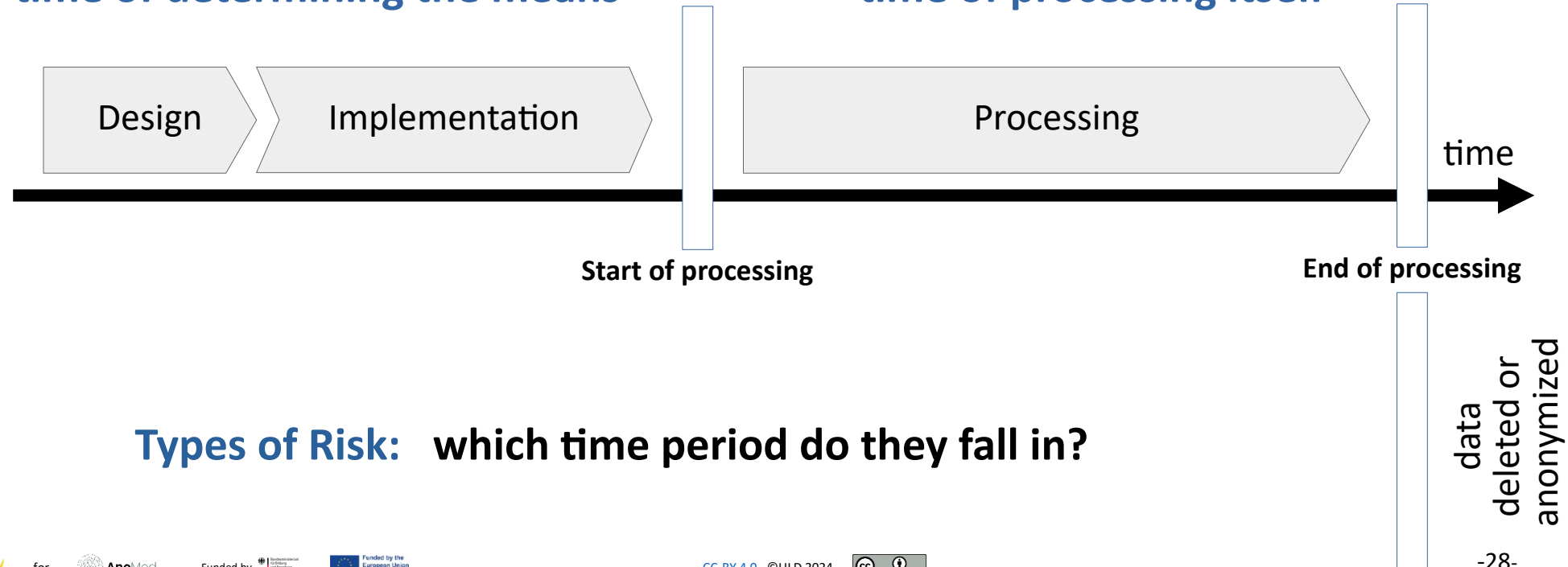
- how does it compare to technical notion of risk?  
(Attacker Model, ..)
- distinguish **different kinds of risk**

# Two Periods of Time in the GDPR

Art. 25 “data protection by design”

“time of determining the means”

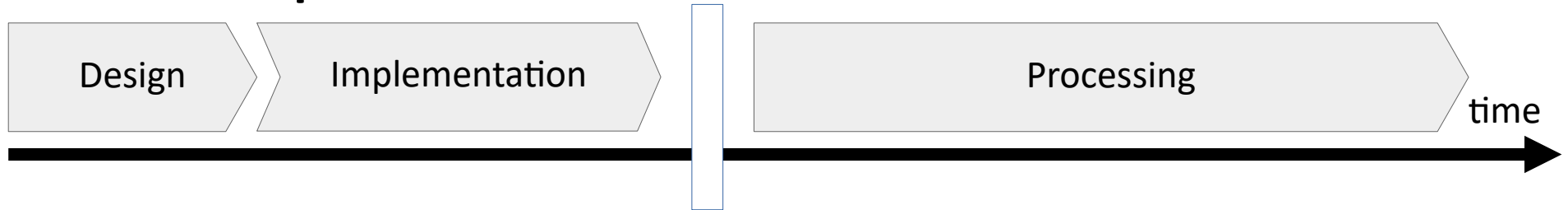
“time of processing itself”



**Types of Risk:** which time period do they fall in?

# Different Kinds of Risk

Which time period does the risk refer to?

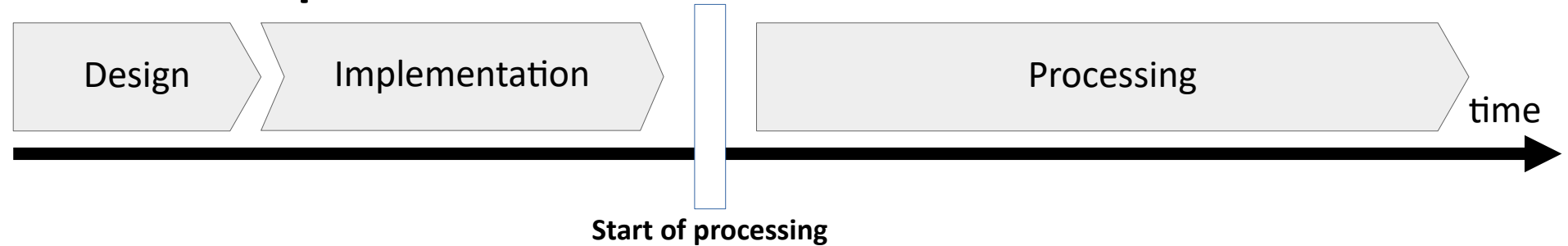


Start of processing

**Risk of  
non-compliant  
conception and  
design**

# Different Kinds of Risk

Which time period does the risk refer to?



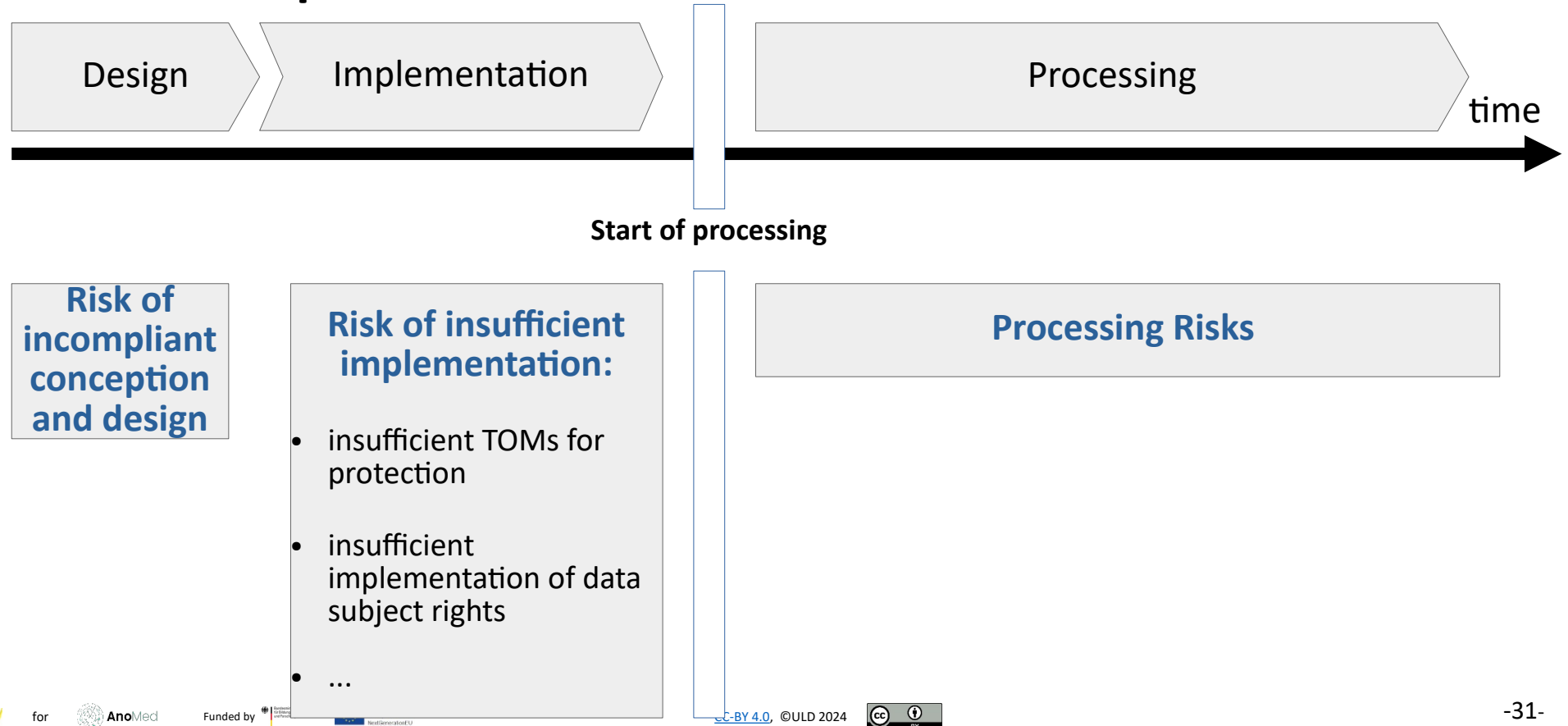
**Risk of non-compliant conception and design**

**Risk of insufficient implementation:**

- insufficient TOMs for protection
- insufficient implementation of data subject rights
- ...

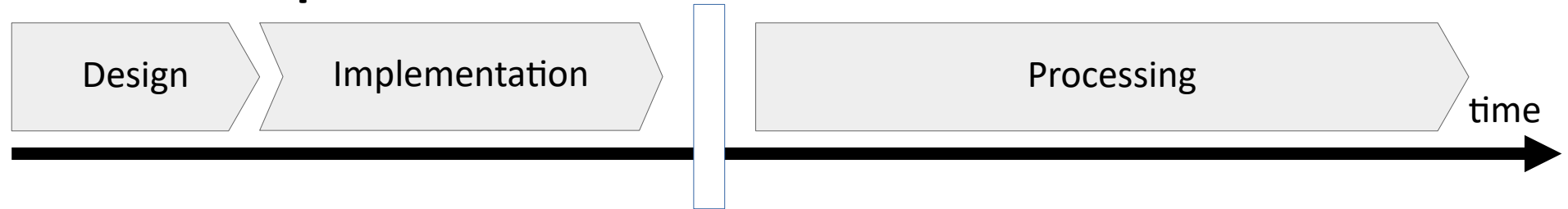
# Different Kinds of Risk

Which time period does the risk refer to?



# Different Kinds of Risk

Which time period does the risk refer to?



**Risk of non-compliant conception and design**

**Risk of insufficient implementation:**

- insufficient TOMs for protection
- insufficient implementation of data subject rights
- ...

**Processing Risks**

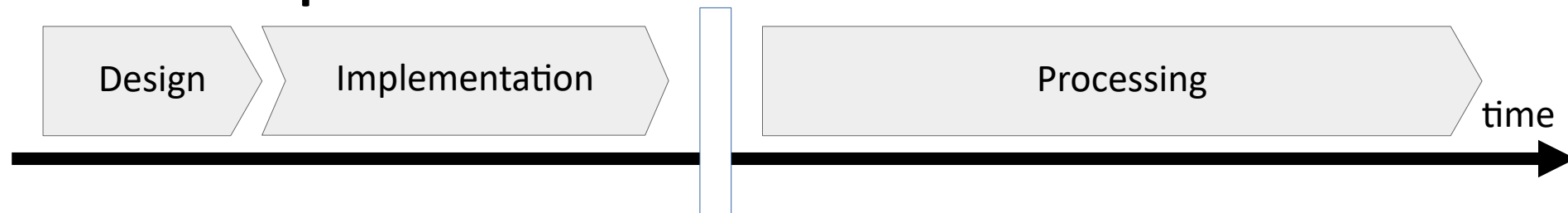
Manage **Risk** of Use for Other (thus unlawful) Purposes

Manage **Risk** of inconsistency and unavailability



# Different Kinds of Risk?

Which time period does the risk refer to?



**Risk of non-compliant conception and design**

**Risk of insufficient implementation:**

- insufficient TOMs for protection
- insufficient implementation of data subject rights
- ...

**Processing Risks**

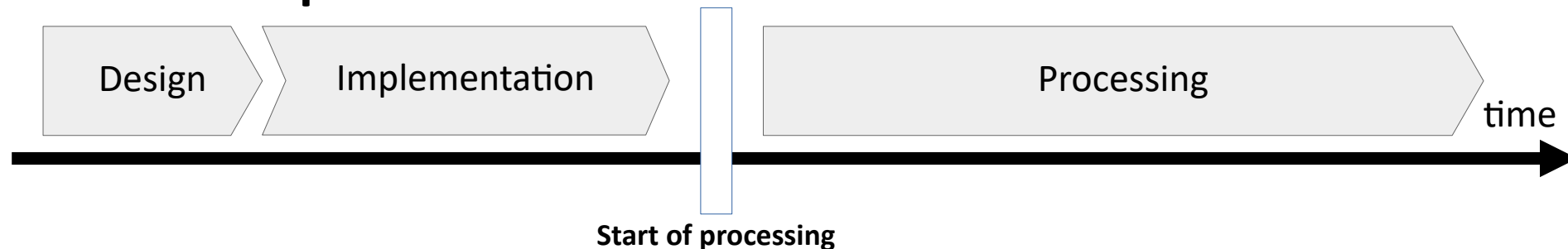
Manage **Risk** of Use for Other (thus unlawful) Purposes

information security (well understood)

Manage **Risk** of inconsistency and unavailability

# Different Kinds of Risk?

Which time period does the risk refer to?



**Risk of non-compliant conception and design**

**Risk of insufficient implementation:**

- insufficient TOMs for protection
- insufficient implementation of data subject rights
- ...

**Processing Risks**

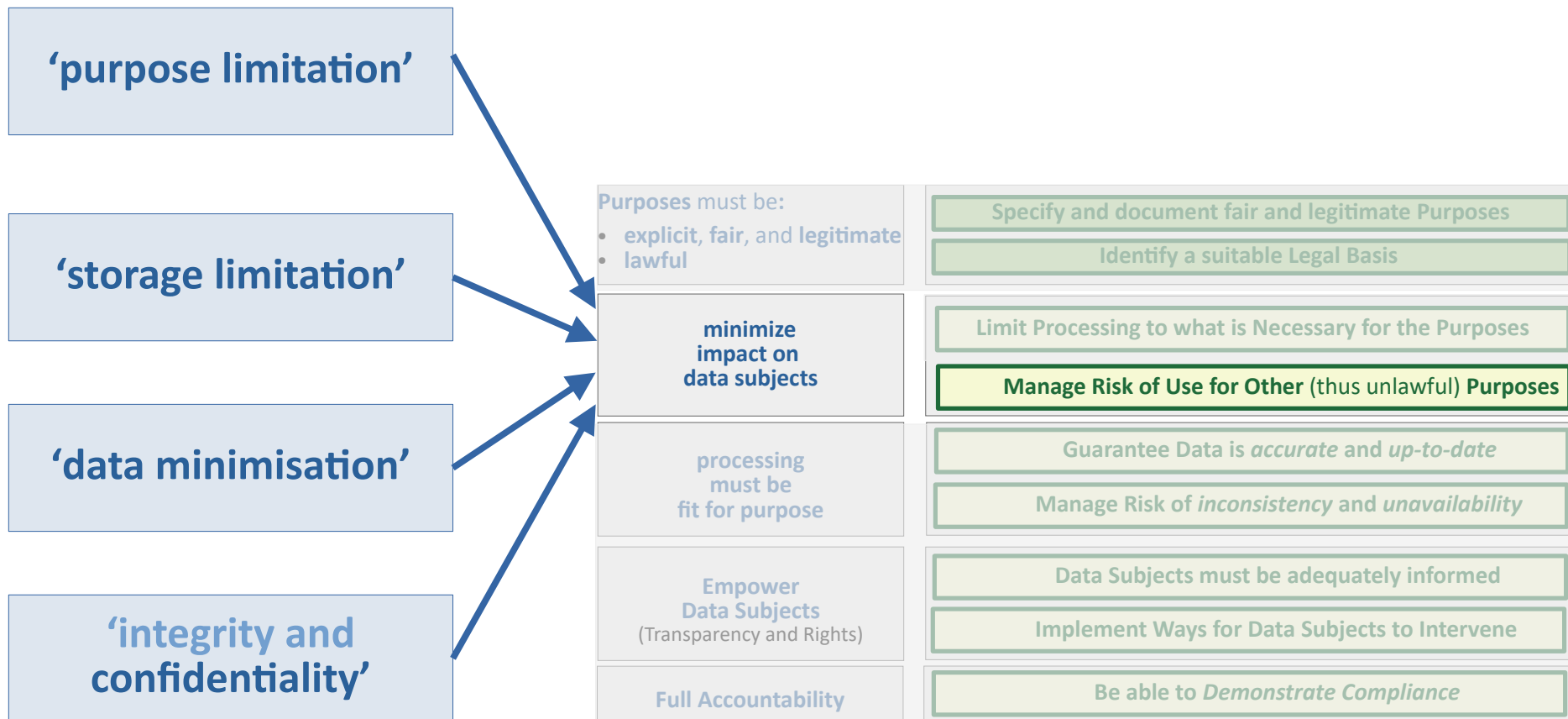
Manage **Risk** of Use for Other (thus unlawful) Purposes

**deserves further analysis**

AnoMed: residual risk of **re-identification**

Manage **Risk** of *inconsistency and unavailability*

# What is the Relation with Principles?



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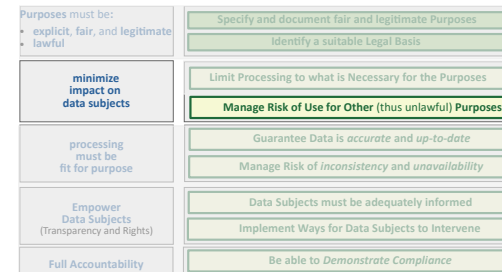
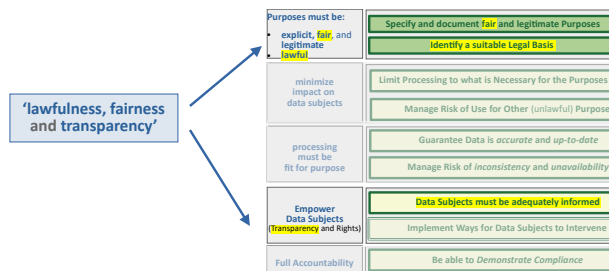
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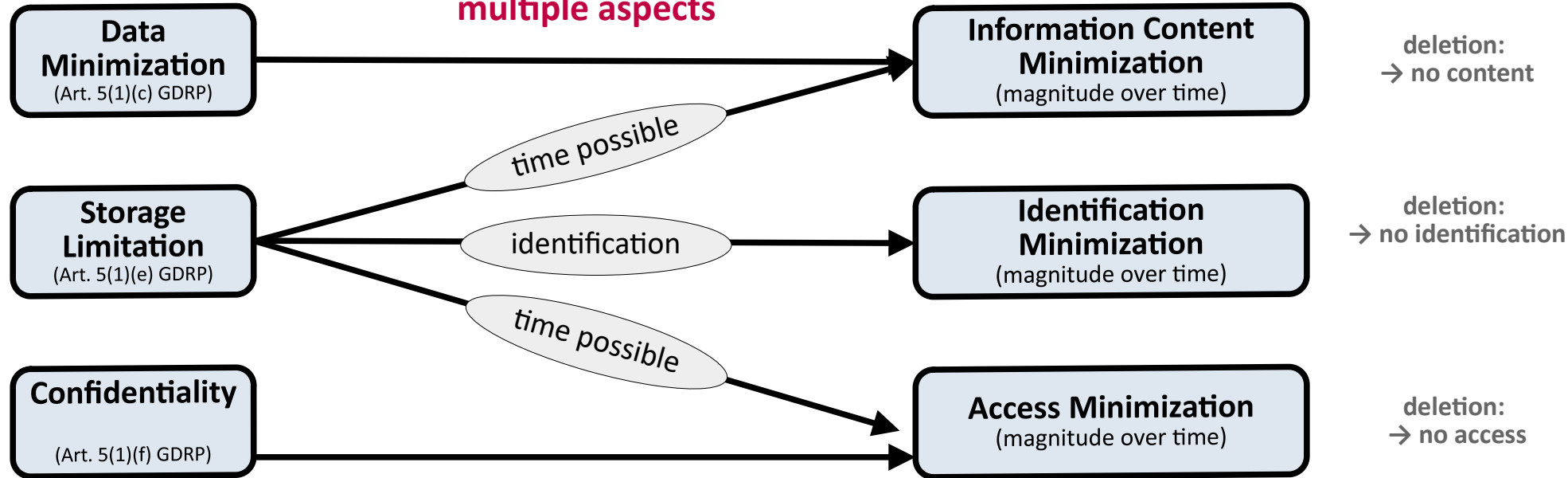


# “Untangling of Definitions: “Protection Goals”

## GDPR Principles

untangle  
multiple aspects

## Technical “Protection Goals”

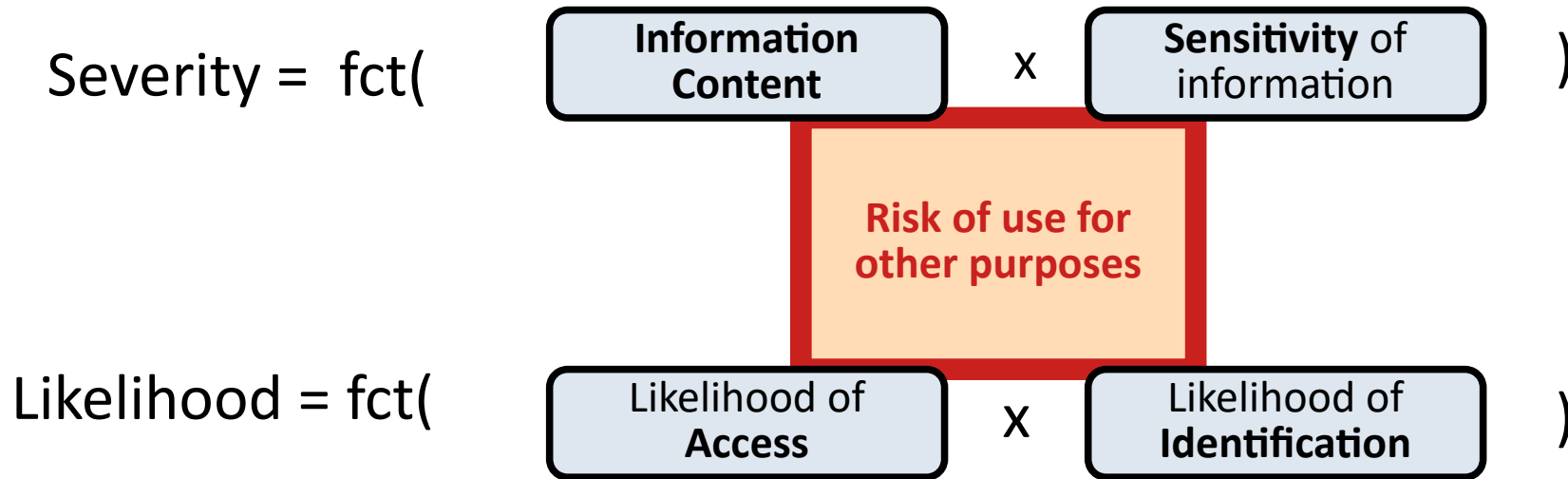


# Risk

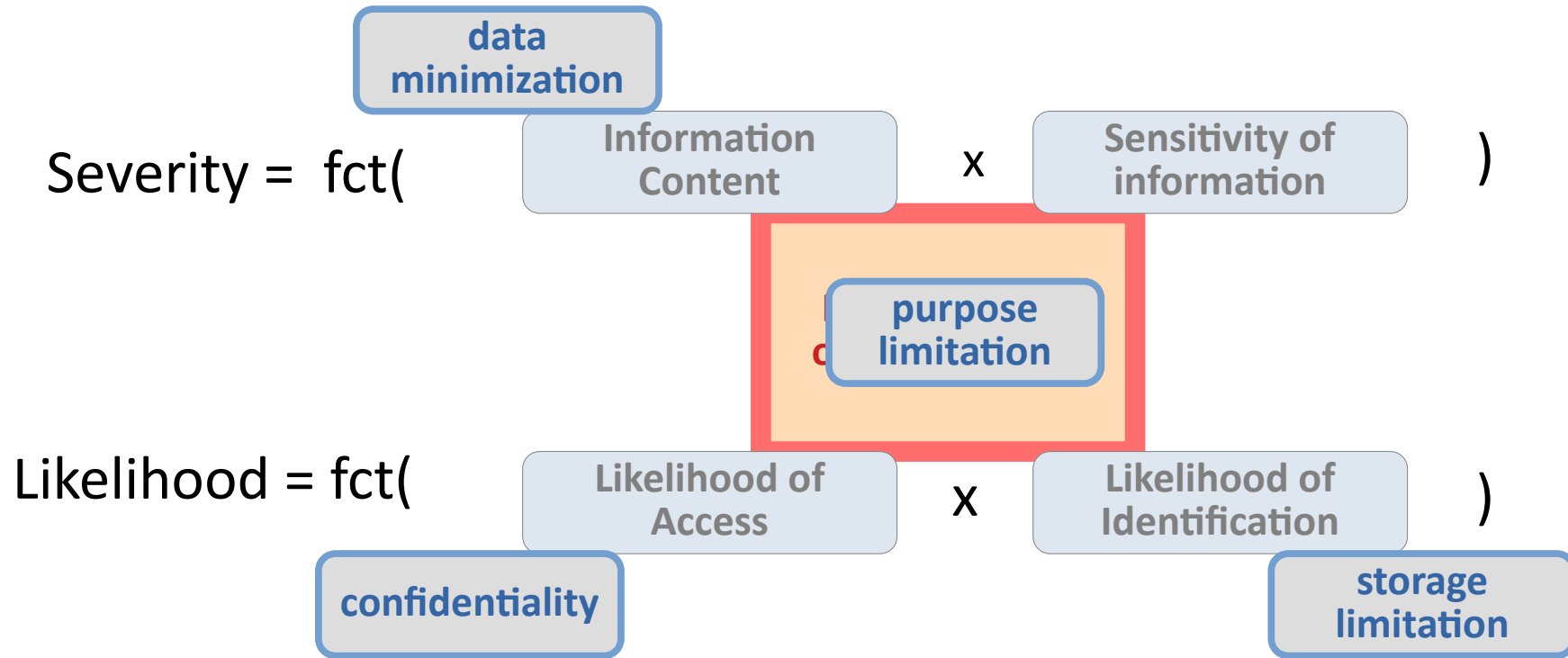
$$\text{Risk} = \text{Likelihood} \times \text{Severity}$$

# Risk of Use for Other Purposes

Main aspect of “purpose limitation”

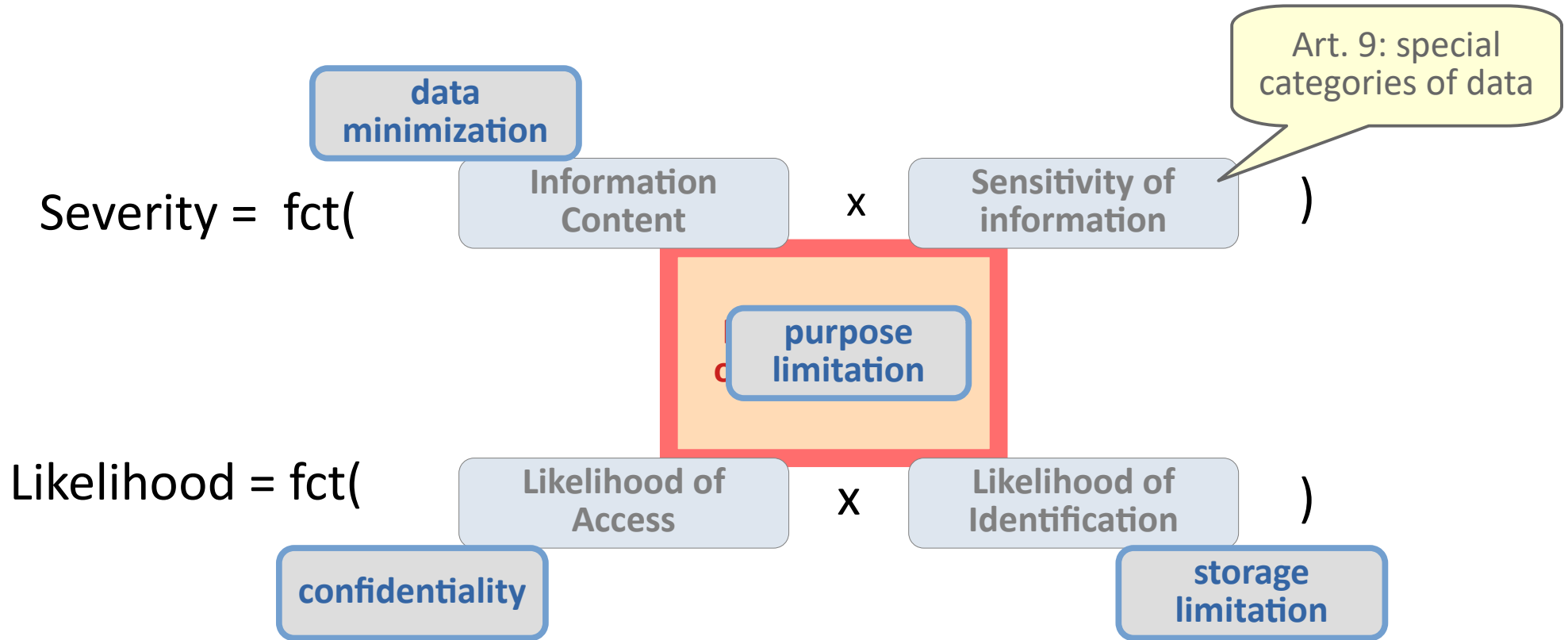


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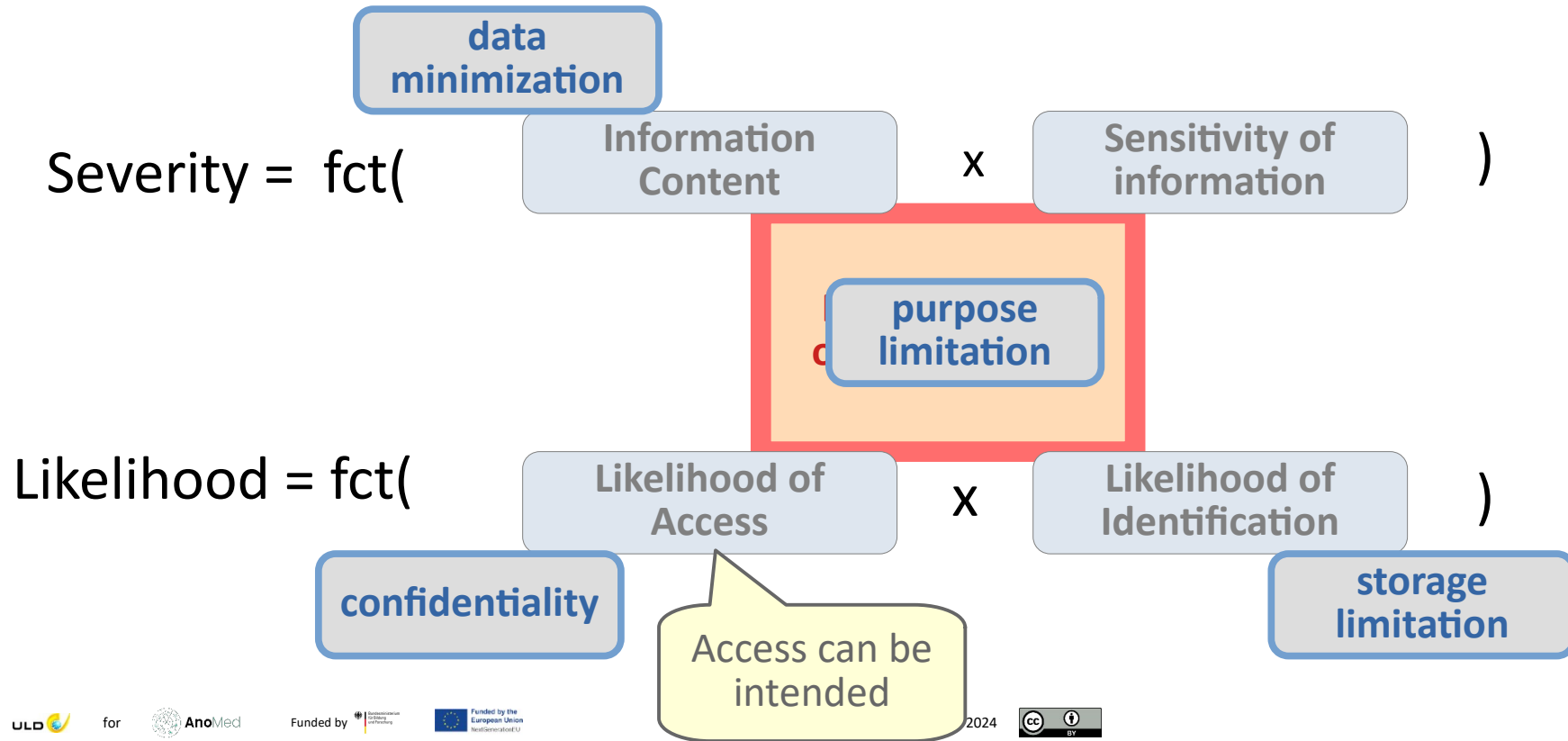




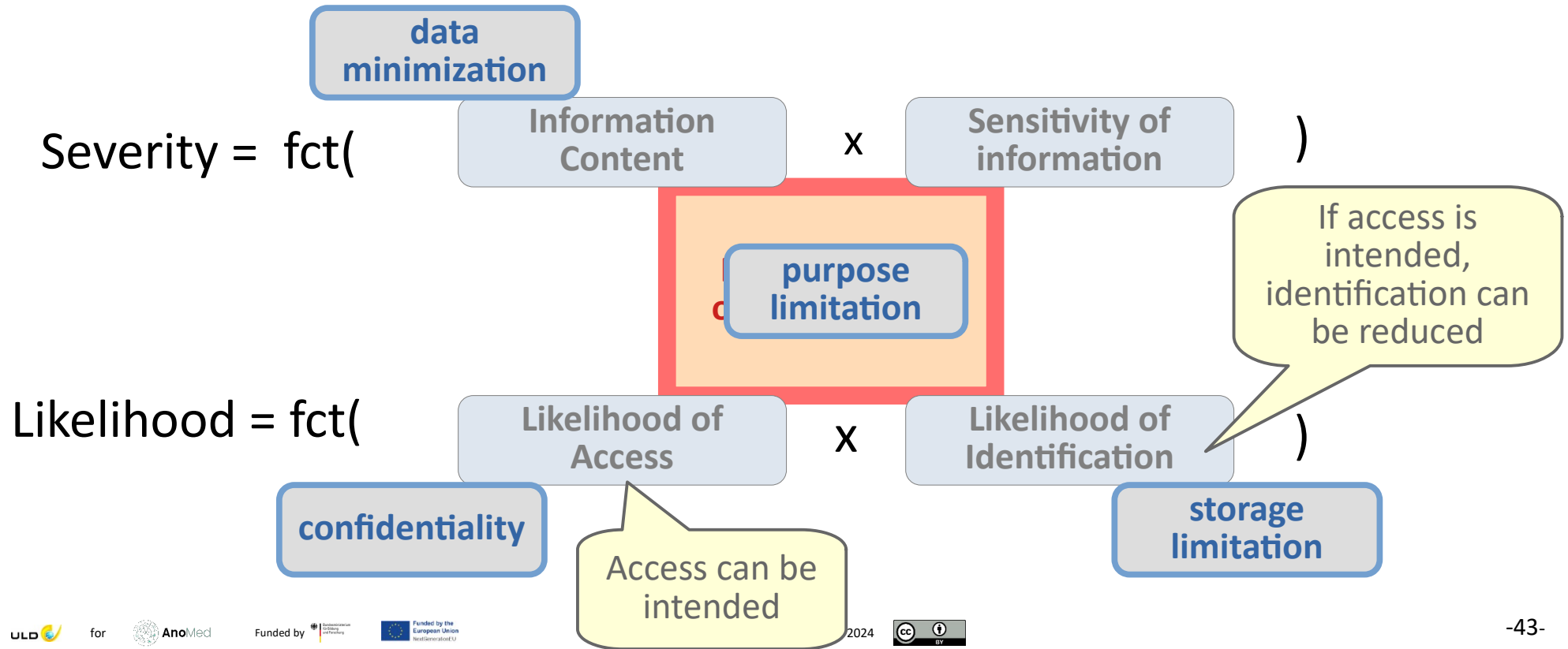
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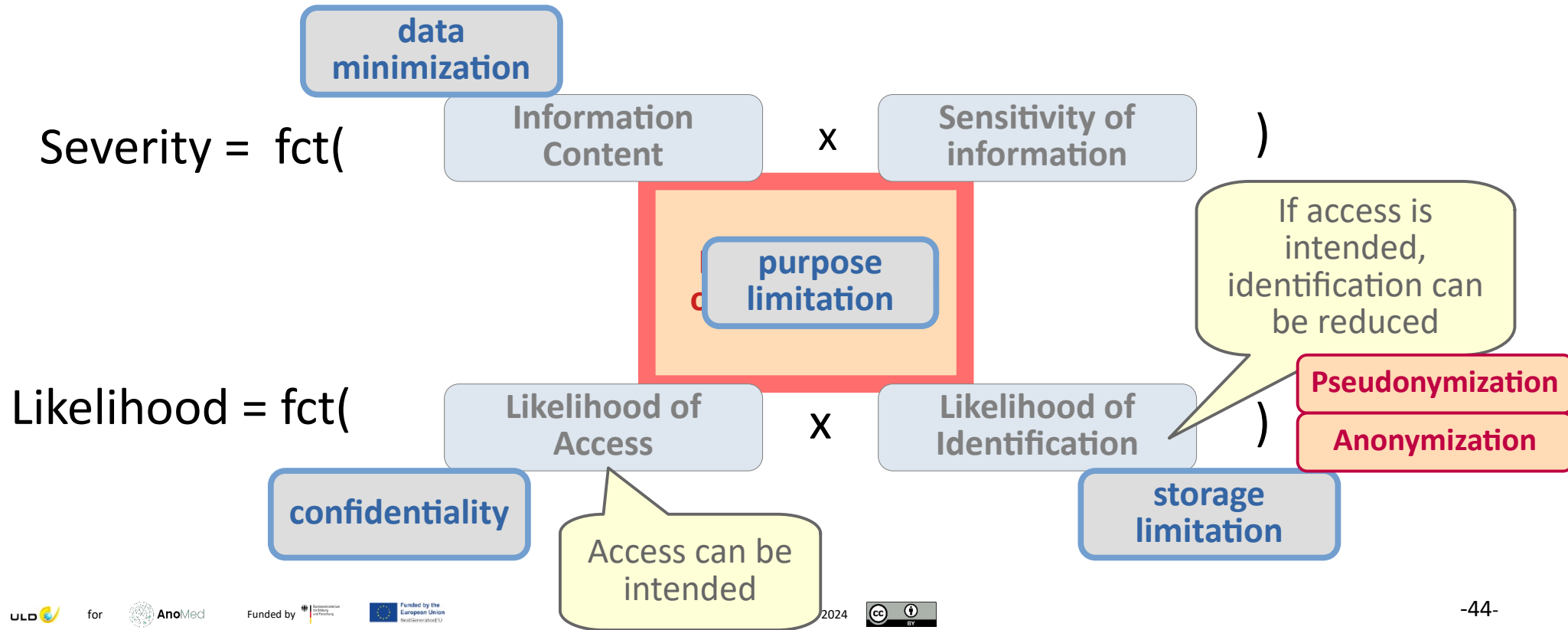
# Risk of Use for Other Purposes



# Risk of Use for Other Purposes



# Risk of Use for Other Purposes



# Conclusions Module 2

## Principles are central to the GDPR

- They have a **long History** (many since 1974)
- **Looked at all Principles..**
- ..and where they fit in the flow chart
- Several Principles are related to the ***Risk of Use for Other Purposes***
- Briefly looked at **Risk in the GDPR**
- **Analysed how 4 principles relate to this Risk**

