Predictive Marketing and

Digital Responsibility

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Who is BARMER?

- 2nd largest German **public health insurance**, subject to government regulation

- **Almost 9 million lives covered**, which equals >**12%** market share in Germany

- **45.9 bn € budget** (2023), ~**16,000 employees** and more than 350 local offices

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Predictive Marketing & AI: What are we working on?

Web tracking data

econda Personalization & Analytics

Subscriber data

inxmail

CRM data

SAP

dynamic content / prospect scoring
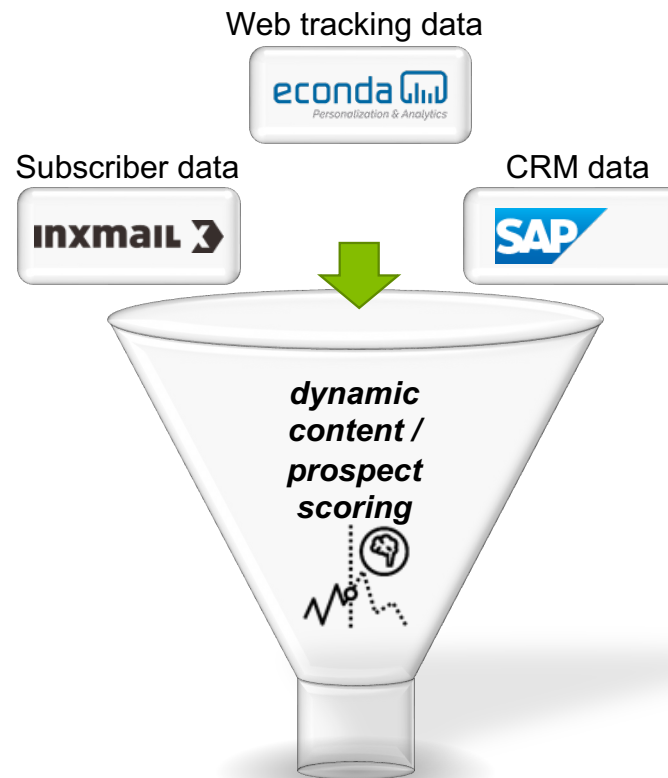
Marketing automation and the use of predictive AI models

- BARMER insures 8.7 million people and communicates with a wide range of target groups.

- With our service provider DYMATRIX we are working on AI solutions for marketing automation to address clients and prospects individually.

- Currently we work on AI models for two use cases:
  - How to improve the probability of conversion?
  - What is the next best content for an individual in a certain situation?

- Newsletters will be the first channel to implement AI-based dynamic content publishing.

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Is the use of predictive AI models in healthcare communication and marketing actually ethically acceptable?

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Is it justifiable not to engage with AI?

We use AI. What could happen?

- The satisfaction of our policyholders increases, they feel understood.

- Individual advice at the right moment increases participation in cancer screening.

- AI steers prospects with a high risk of disease out of the funnel.

- First experience with transparent AI reduces anxiety and improves digital literacy.

- AI takes cues of unhealthy behaviour into account when making benefit decisions.

We do not use AI. What could happen?

- Insured people are annoyed about unused premiums, they didn't know about the bonus programme.

- Our website hits halve every year, health information is generated AI-based directly from the search engine.

- Back pain becomes chronic, an early reference to a care programme could have prevented it.

- A newsletter from Alibaba accurately addresses individual illnesses and gains hundreds of thousands of subscribers in Germany.

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AI in marketing needs an ethical framework

Law

- Basic law
- Social law
- EU GDPR
- E-Health Act
- Digital Health Care Act
- …

AI for marketing automation at BARMER?

Ethics

- BARMER CDR values
- *Marketing automation guidelines (WIP)*
- *AI rulebook (WIP)*

Economy

- §12 SGB V: cost-effectiveness requirement
- cost-bearer role
- solidarity principle & GKV (SHI) financing
- demographic change
- competition between health insurances

Responsible digitisation combines law, economy and ethics

- A public health insurance is a corporation under public law with the core task of being a payer: the combination of law and economics is part of its DNA.

- Law and economics come up against limits in the digitisation of the health care system. The regulatory framework often lags far behind real developments.

- In 2020, BARMER developed a value system for digital ethics as the basis for its actions.

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Digital ethics: BARMER's system of values

Menschenorientiert /
Patientenzentriert

Sicher / Geschützt

Souverän /
Selbstbestimmt

Wirtschaftlich /
Fokussiert

Solidarisch /
Kooperativ

Transparent /
Aufklärend

Verantwortlich /
Verlässlich

Nutzenstiftend /
Unterstützend

Eight values provide orientation for responsible digitisation

- In 2020 BARMER has anchored digital ethics within the company via a value system.

- The opportunities and risks of new and further developments are discussed and evaluated on the basis of this value system.

- The values form a general framework for BARMER's actions, in its relationship with policyholders as well as with service providers.

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Values need specification: example transparency

Transparent / Aufklärend

specify

| **Policyholders** need comprehensible information about services and must be able to understand our decisions. | **Doctors** need transparency about the previous therapy and medication of their patients. | **An efficient and effective health system** needs quality transparency and comparable key figures. | [...] |

BARMER Kompass
The BARMER app makes insurance / care processes visible in real time and explains the background and legal basis.

Treatment History eCare
BARMER prepares* data from the last 3 years in such a way that doctors can access it with their software in a structured way.

Transparency Report
BARMER has been voluntarily publishing performance and quality indicators on its website since 2020.

Bearbeitungsdauer (in Tagen)

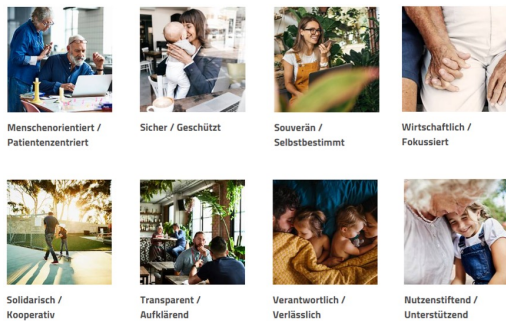**16,2** Feststellung Pflegebedürftigkeit

2,9 Kurzzeitpflege

1,7 Verhinderungspflege

* The processing of billing data in eCare as a basis of information for therapists only takes place after authorisation by the insured person.

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From a value system to rules for AI in marketing

BARMER value system digital ethics

Menschenorientiert / Patientenzentriert · Sicher / Geschützt · Souverän / Selbstbestimmt · Wirtschaftlich / Fokussiert

Solidarisch / Kooperativ · Transparent / Aufklärend · Verantwortlich / Verlässlich · Nutzenstiftend / Unterstützend

- Since 2020, the value system has provided a framework for product, digital and supply strategy.

- It must be specified for fields of action.

Guidelines for data-driven marketing

1. **useful**
2. **human-centred**
3. **safe & secure**
4. **transparent**
5. **self-determined**

WIP

- Derivation of guidelines on the basis of the primary values concerned.

- Accompaniment by ethicists: Prof. Dr. Stefan Heinemann.

- In cooperation with our service provider DYMATRIX.

Technical framework for predictive AI models

WIP

user-based logic

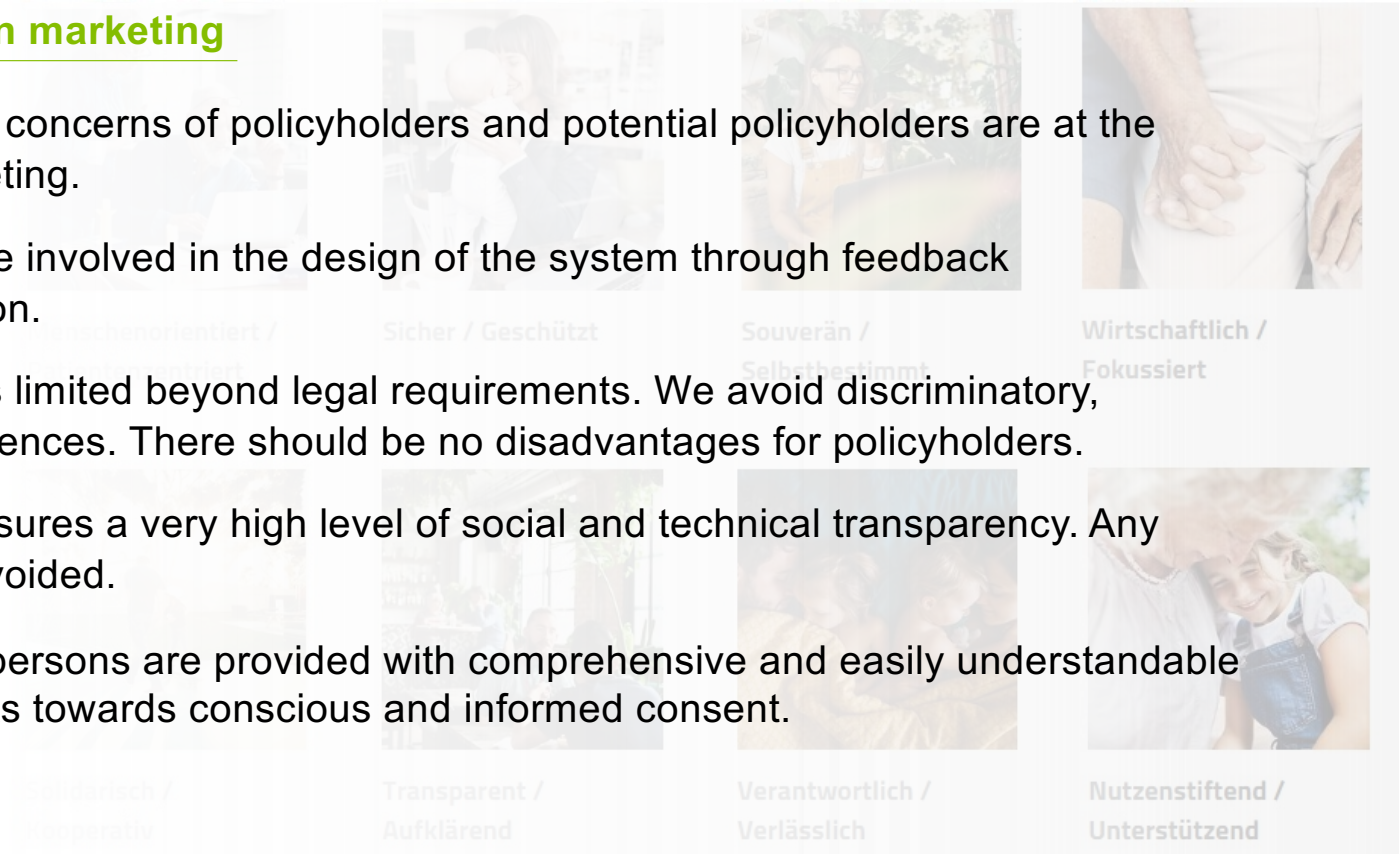rule-based logic

legal foundations
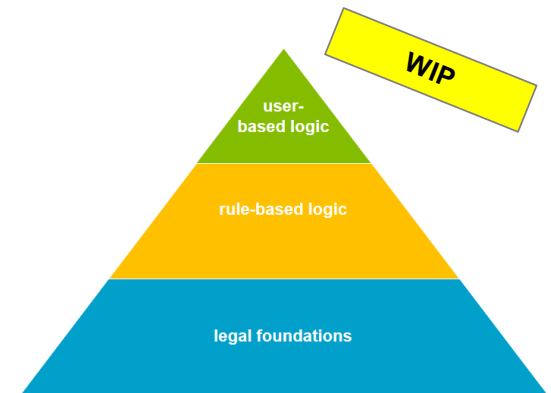
- Legal requirements and ethical guidelines are translated into a technical set of rules.

- The set of rules limits the possible input and output of the predictive models.

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Our guidelines for the use of AI in marketing

Five guidelines for data-driven marketing

1. **Beneficial:** The needs and concerns of policyholders and potential policyholders are at the center of data-driven marketing.

2. **People-oriented:** Users are involved in the design of the system through feedback opportunities and co-creation.

3. **Safe & secure:** Data use is limited beyond legal requirements. We avoid discriminatory, distorting or unfair consequences. There should be no disadvantages for policyholders.

4. **Transparent:** BARMER ensures a very high level of social and technical transparency. Any form of "dark patterns" is avoided.

5. **Self-determined:** Insured persons are provided with comprehensive and easily understandable information. BARMER works towards conscious and informed consent.
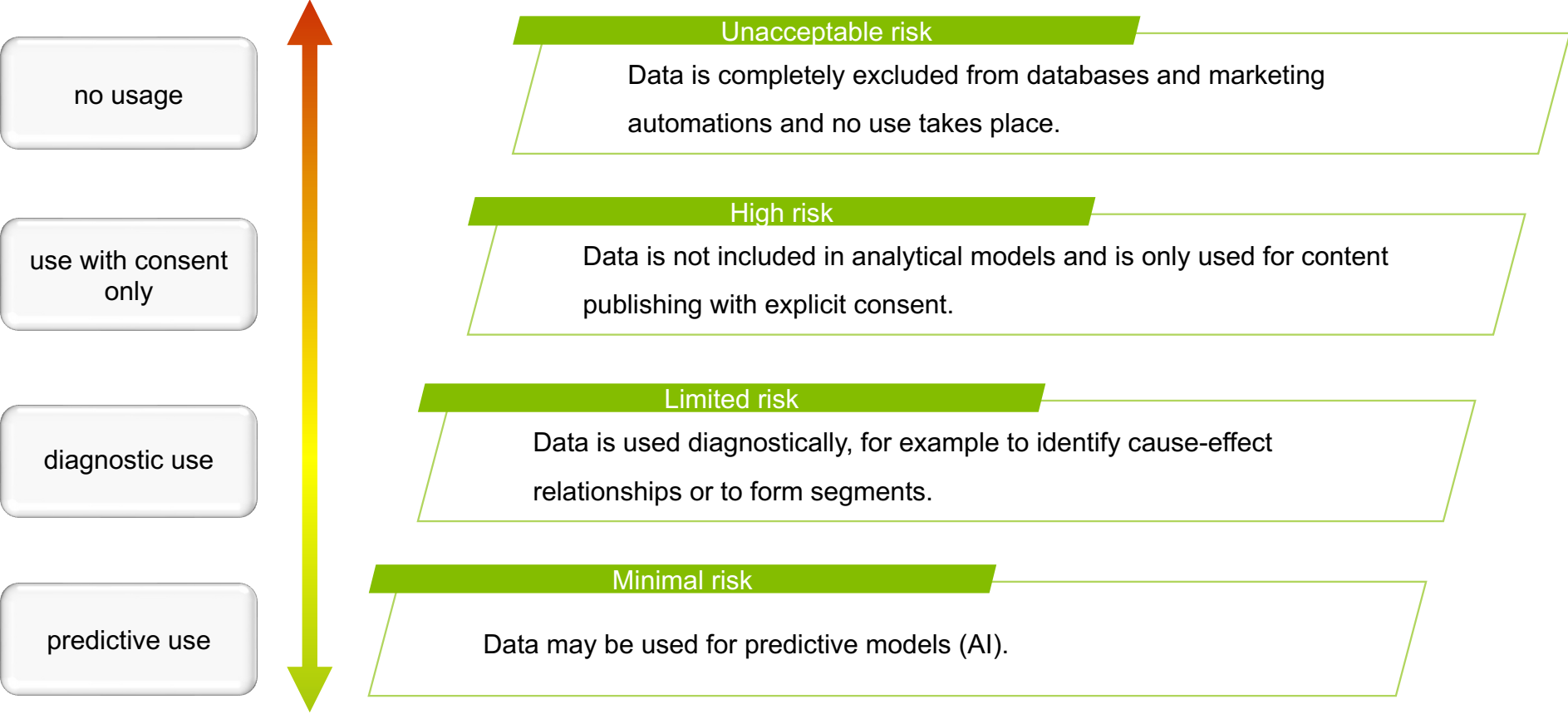
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Development of a technical framework for AI

user-based logic

rule-based logic

legal foundations
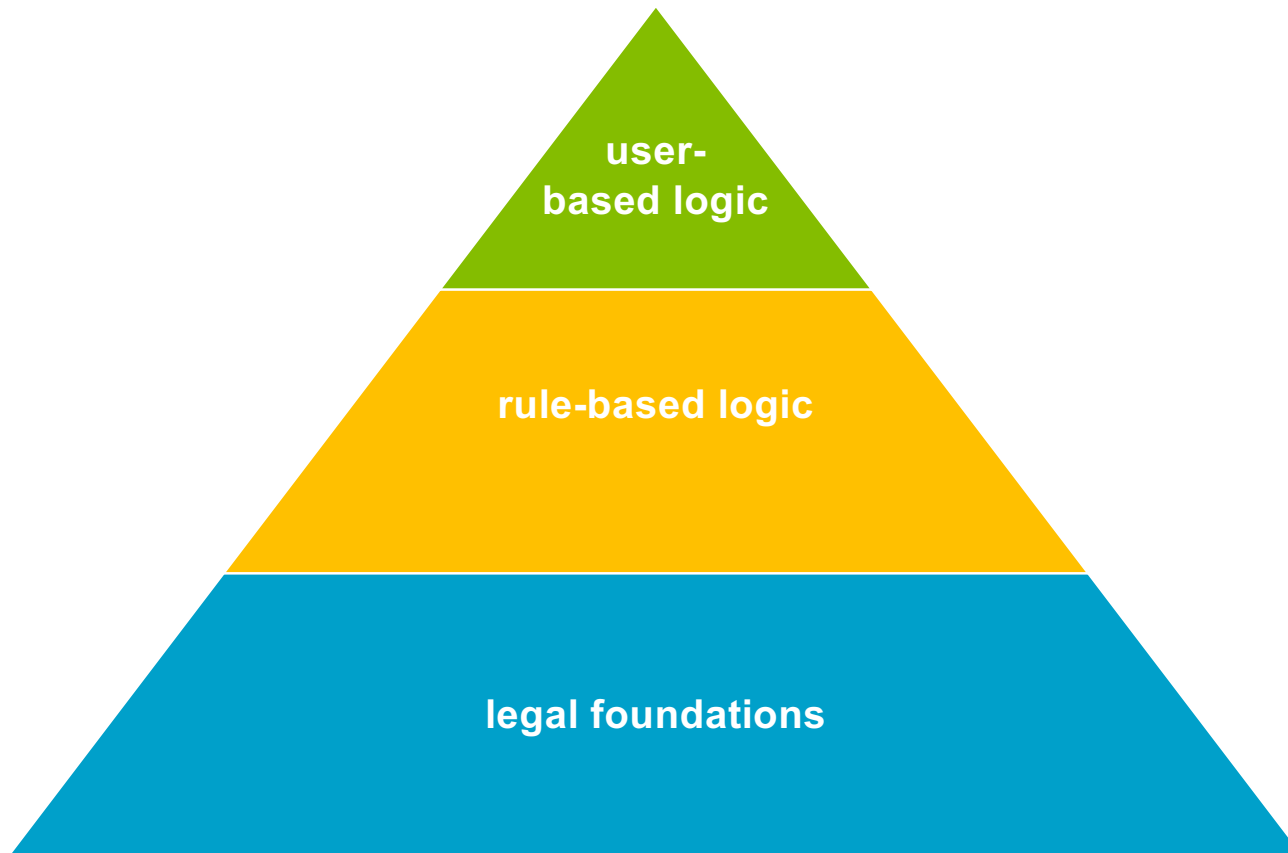
Ethical guidelines as a basis for limiting AI input and output

- At the level of rule-based logic, restrictions are placed on what data may be included in the prediction.

- The output of the model - the possible forecasts and decisions - is also limited.

- In addition, it is planned to give users control over their data and the use of AI: they can not only decide for or against AI based content, but in future also control whether all permitted data may be processed or only certain categories.

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Classification of data input into four ethical levels

no usage

use with consent only

diagnostic use

predictive use

Unacceptable risk
Data is completely excluded from databases and marketing automations and no use takes place.

High risk
Data is not included in analytical models and is only used for content publishing with explicit consent.

Limited risk
Data is used diagnostically, for example to identify cause-effect relationships or to form segments.

Minimal risk
Data may be used for predictive models (AI).

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Additional regulation of content output necessary

data input

machine learning models / dynamic content
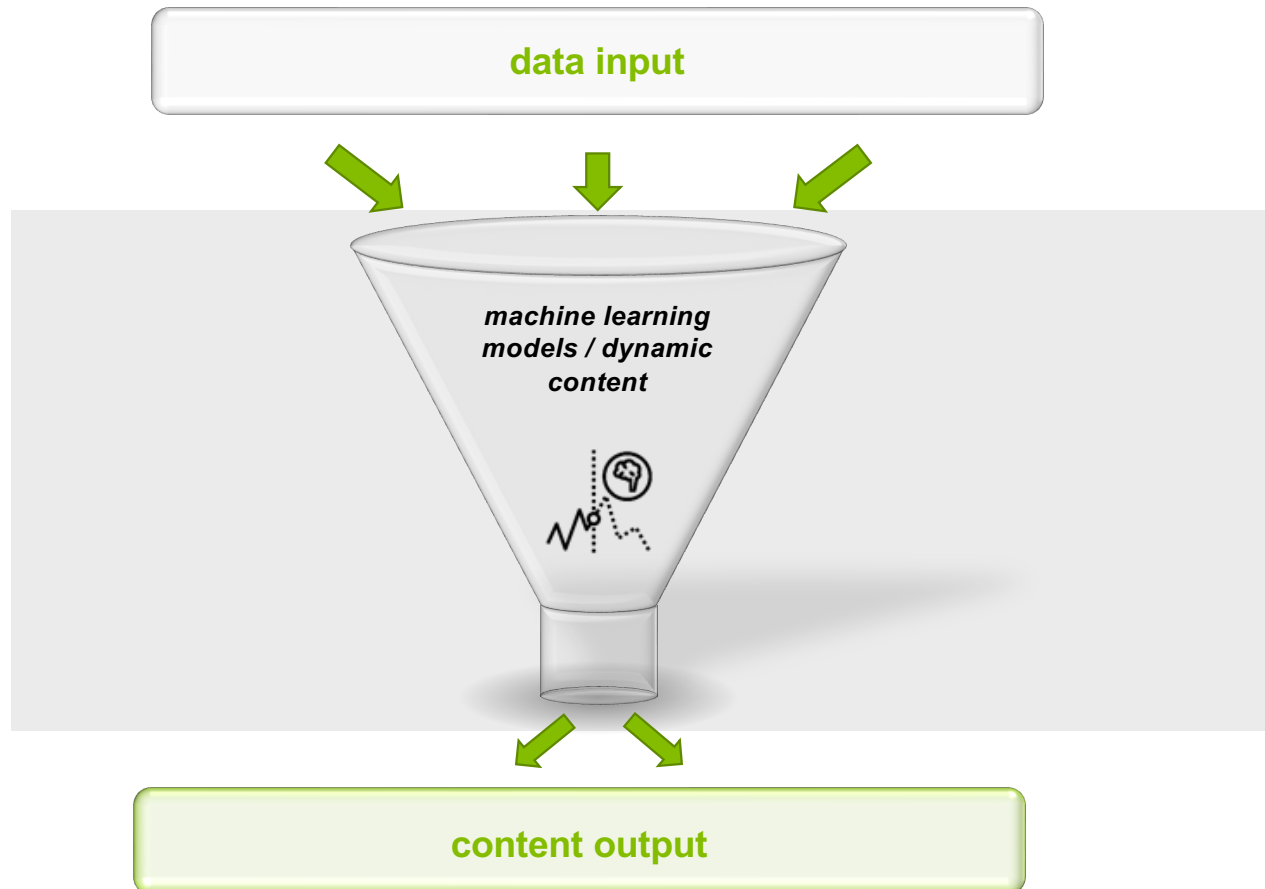
content output

Input restrictions alone are not enough

- The "withholding" of data can also lead to unintended conclusions in an AI.

- Regulation of input alone is therefore not sufficient.

- Output must also be restricted and types of content excluded from AI use.

- To ensure this, we also categorize content output similar to data inputs.

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Current project phase and next steps

- **Training of two predictive models** based on BARMER data is in progress: probability of conversion and next best content.

- **Development of user landingpage** starts in Q3, should be finished in Q4: transparent and comprehensible information about usage of data, AI based content and profile building.

- **UX/UI conception of consent management and user based AI setup** (user based data restrictions, individual scope of AI influence) starts in Q3.

- **Development of the rule based logic** that regulates input and output of our predicitve models until Q1 24.

- **AI-based publishing** will start in Q2/Q2 2024.

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Thank you!

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