



7 COMMANDMENTS OF DIGITAL ETHICS

Without ethics as a backbone, a company takes risks developing digital products and services users and employees cannot trust. Droople, a Swiss cleantech, demonstrates how to apply 7 key ethical principles in real life for building the Internet of Water.

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Ethics in new technologies:

What is at stake?

Digital and energy innovation are pillars that drive efficiency and sustainability in the water sector. Ethics is no longer an option for digital innovation. Trust is considered a critical success factor, deeply anchored in responsibility and transparency. The best way for companies to build trust is rock-solid ethics. Ethics are rules in society that govern the greater good of the community. Without ethics as a backbone, you take the risk of developing digital products and services your users and employees cannot trust. So how to build an innovative company with strong ethical foundations?

Although ethical charters tend to proliferate with their own set of rules, 7 key principles stand out. To better illustrate those principles, we are going to focus on Droople, a Swiss cleantech building the Internet of Water. Droople's mission is to achieve a better use of water worldwide, by providing people and businesses smart insights that are generated by Artificial Intelligence (AI) algorithms.

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Droople Water Intelligence Platform:

Why ethics matters?

Droople offers turnkey water monitoring solutions designed for a wide range of water assets such as water treatment systems, appliances and sanitary ware, to offer dashboards, asset analytics, forecasting, audits and much more. The full-stack IoT solution includes intelligent connected devices collecting data such as flow, temperature, pressure, hardness, pH, chlorine and others. They connect via fully encrypted, high-resolution, ultra-low power wireless communication to the Droople cloud platform, hosting AI-based algorithms and providing a 24/7 dashboard access to actionable real-time insights.

At first sight it might be difficult to see why ethics would matter for Droople, a SaaS company with data related to water, gender-neutral by nature. But in fact, respecting those 7 ethical principles positively impacts customer and employee loyalty.

TRANSPARENCY:

Collect less and learn more

The best way to create a culture of transparency is to collect only what is necessary and make it fully available. All data that Droople collects is translated into clear dashboards providing real-time monitoring, shedding light on water consumption, as well as flow rate, usage and temperature indicators. Transparency goes beyond raw data visualization: smart aggregations associated with the computation of new metrics, such as

comparisons of water bottles to a water fountain, bring new perspectives to customers and help change behaviors, fix issues, or measure impact.

PRIVACY:

Guarantee privacy by design

Ensure privacy by design, first with clear definitions of data types (generated data vs. personal data) and with security anywhere (alias, password protection, encryption). The company needs the ability to fully extract data or erase them on demand at the data provider's request. Droople lets customers adapt the amount of information they want to pro-



vide. For example, device identification and localization are optional.

SAFETY & SECURITY:

Ensure no harm

Any company is responsible for offering services and products that are safe to use. Certifications are necessary when guaranteeing safety, across multiple geographies and regulations. Droople's products comply with a broad range of internationally recognized certifications including the CE mark and drinking water directives. In addition, their sensor electrical equipment is low voltage to further reduce risks and ensure a high level of protection.

EXPLAINABILITY:

Be able to explain why and how

Effective design and readily accessible information promote explainability. Droople's source code is not publicly available, but team experts commit to answering any customer enquiry regarding AI algorithms and sensor data whether processed on the edge (e.g., for pattern detection) or cloud (e.g., for abnormality detection, conversion tables, etc).

FAIRNESS:

Supporting a fair water footprint

Fairness is about giving equal chances to all when accessing natural resources in the right way. For example, inadequate equipment maintenance may negatively impact the ecology, the economy, or human health. Droople supports the fair use of water by providing analytics and forecasting capabilities enabling predictive maintenance of water assets. This results in a timely replacement of equipment or consumable items, and therefore a proper management for water equipment lifespan.

INCLUSIVITY:

Diversity = Strength

The more diverse the company culture, the bigger its positive impact. The most affluent teams are comprised of multiple perspectives, profiles (age, gender, culture), and complementary skills. Close collaboration and partnerships between developers and customers also feed to this thriving ecosystem. Diversity enables teams to solve problems from multiple angles, allowing a broad range of options to investigate

and provide solutions suited to various communities.

RESPONSIBILITY:

Provide a positive impact

One should be accountable and there is always room to identify opportunities to make this world thrive. The United Nations' Sustainable Development Goals (SDG) provide a global blueprint for acting responsibly. Droople helps transform how we manage water and contributes directly to SDGs 6, 9, 11 and 17 related to water and sanitation accessibility, sustainable cities, industry-wide innovation, and international collaboration.

"Glass Box" versus "Black Box"

Ultimately, by designing their innovative solutions to support the SDGs, Droople takes the opportunity to establish a sustainable congruence between the services delivered and customers' needs. In a nutshell, good ethical practice makes for professional practice, allowing for advanced risk management and co-creating a sustainable digital future.

