

Checklist for identifying dubious technologies

Rules of thumb that can help you identify 90% of all dubious technical products:

1. **Magnetic or electromagnetic impulses** have no influence on the technologically relevant properties of liquids like water or gasoline. (Key words: improving fuel efficiency; softening of water, desiccation of walls...)
2. **Crystals** have no specific influence on liquids, electromagnetic fields or radiation. (Key words: "Informed, vitalized..." drinking water, protection from "electromagnetic pollution"...)
3. **Water** has no definite structure, no "memory" and cannot transmit "information" (Key words: "vitalized", "levitated", "informed" water...)
4. **Earth radiation** and **tachyons** do not exist. (Key words: Divining rods, Tachyon Energy...)

Assessment of a product

- It is typical of dubious processes that, even when used incorrectly, they never have any ostensibly negative effects. Anything that really has a technical effect must inevitably produce undesirable consequences when used incorrectly. *Example: How can "informed water" supposedly kill bacteria in the swimming pool but not in the human stomach-intestine tract? How does the producer argue, when I claim that since the installation of his device I have severe headaches?*
- It is typical to find dubious suppliers having ostensibly "fair" commission agreements which state that the equipment need only be paid if it works successfully. (They however do not agree on a penalty in case the equipment fails). *Explanation: Assume that I sell pregnant women for €100 a device that will guarantee them male offspring – money back if the baby turns out to be female. Is this really a fair offer? I will make on average €50 on each device sold, even if they do not work at all.*
- Am I competent enough to assess the functional efficiency of the miraculous device? If not: Consult an expert. As an example, only very few customers are really in a position to assess technically the effectiveness of a "magnetic water softener."
- Don't get carried away by "spectacular presentations". Dubious suppliers are no less artful than magicians in stage shows. There are several tricks for presentation particularly when it comes to the field of drinking water treatment (such as using "magnetic softening", "activated water", "levitated water") and a customer who is ignorant about aquatic chemistry can easily be cheated.
- When carrying out demonstrations, dubious suppliers distinguish themselves by the way they argue in favor of the effectiveness of their products, particularly with the help of expressions such as "enthusiastic customers" ("Customer reports"). Genuine suppliers on the other hand, present test results carried out by renowned technical institutions.
- Dubious suppliers use "soft" phrases to emphasize the effectiveness of their products: "can, often, in most cases, according to..." *Example: "Even after a short time, a clear reduction of up to 25% in fuel consumption can be detected. This has been confirmed by many satisfied customers."* This statement is vague enough to also include "non-effectiveness".

- Is the effectiveness of the product assessed on the basis of objectively defined criteria? Is there an “acceptance inspection” in conformance with predefined standards? Does the supplier guarantee the effectiveness of the product?
- Typical of dubious products: the “egg-laying jackrabbit mule.” Example: Sellers of magnets who claim that their devices improve engine performance and at the same time reduce fuel consumption, the particle emission and, of course, the wear of the engine.
- Beware of specifications like “TÜV-tested” The “tested” by no means implies that the results of tests performed have been positive. On most occasions it is not the specific effect of the product that is tested but only its conformity to the standards of safety (food safety of the materials used, electrical safety...). Beware of statements such as “tested by the internationally recognized XY institute” There are several institutions particularly those in Eastern Europe that are “for sale” but have titles that sound deceptively genuine (“Academy of scientific technology”).
- Beware of the list of references: if companies such as Daimler-Chrysler, Coca Cola etc are cited as customers, this doesn’t mean a thing: What projects have been carried out in collaboration with these clients and how big was their investment? Can this be verified at all? Ask for contact addresses of previous customers or references to collect information. “Collaboration with University xyz” is not very significant: What was the precise task undertaken? Was it simply sponsoring a degree course? Typical of dubious suppliers: reference projects in locations that cannot be verified very easily. *Example: “...commercial manufacturing plants set up in Uzbekistan and North Korea”*
- Search the internet! Enter the name of the product along with keywords like “dubious”, “cheating”, “swindling” etc into a search engine. This helps to get a quick overview of the product and you know if the product offered is surrounded by controversy. Check www.csicop.org , www.randi.org and www.gwup.org .

Assessment of the Supplier

- Charlatans often seek to create an “underdog image” to win the sympathy of technically inexperienced customers (*Argument: I am an ingenious inventor waging a campaign against the established school of thought, the multinationals etc. etc.*).
- Company with knowledge and experience in the field? To whom does the company belong? What is its legal corporate status? Who is the general manager and what is his background? Check the Commercial Register.
- How much investment has gone into company and how much of this is “visible” (Hardware: machines, infrastructure...)? Does the company have its own laboratory / production facilities? If yes: make a point of visiting it! Merely a cursory look at the production plant is enough for a technically qualified person to get an idea of the competence of the operators and the capital invested.
- Does the company have technically qualified staff? Has the staff acquired formal education or at least professional experience over several years in the relevant field? “Butcher develops novel highly efficient fuel additives...” is not plausible. Does the staff possess knowledge and experience in the field - positive opinion expressed by colleagues? Publications in the scientific Journals?
- Dubious suppliers are typically known to involve so called “internationally acclaimed experts”, who are intended to create a reputable image (stunningly often a “showpiece” professor from Russia, Poland, Czech Republic or Hungary).

- Beware of All-round geniuses: Inventions these days are not made by “genius tinkerers” but by recognized technical experts in the field or in an associated field.
- Enter the name of the company and the general manager along with keywords like “dubious”, “cheating”, “swindling” etc into a search engine.

Assessment of inventions and patents

- Has the invention been offered to branch leaders? Why not? How did they react? Beware of the argument: "... the pharmaceutical industry, oil lobby, automobile industries etc. are afraid of my innovative invention and want to get rid of me etc. etc. followed by conspiracy theories...".
- Don't listen to the argument: "Industry is not interested in my invention because it cannot be explained with current scientific knowledge". Industry does not at all care whether an invention can be plausibly explained. All they care about is whether it works and whether it will make money for them. *Example: magnets on the fuel line, for saving gasoline. The automobile industry would pay billions for a patent - if the invention actually worked.*
- History of the invention: How did the invention come into being? Who were the persons involved? Who holds the rights? When was the invention made? What has happened to it since then?
- Has an application for a patent been made? Why not? Typical of dubious suppliers: No patent applications at all or the applications are pending. Be cautious of advertisements with patent applications ("patent pending") - this is of no significance at all. Any fool can *apply for a patent* - whether it is *granted* is only revealed several years later.
- Was a patent granted? Patents are published: Get hold of copies or check www.espacenet.ch. Are the patents at all relevant to the invention? By the way: Patent applications are assessed by the Patent Office only for their conformance with formal criteria (such as a novelty, inventiveness) and not for the technical effectiveness of the invention. Many patents have been granted for devices that do not work at all.
- Is the principle of the process plausible? Beware of any "special" effects that are not plausible to the expert or are even in contradiction with the scientific mainstream (e.g. "Earth radiations", "vitalized water", "cosmic energy"). "We also do not know how that happens, but it does work" is a favorite argument of dubious suppliers. *Remember: if the claimed effect is outside the state-of-the-art of science, the burden of proof for the effectiveness of the technology is on the producer and not on the skeptic.*