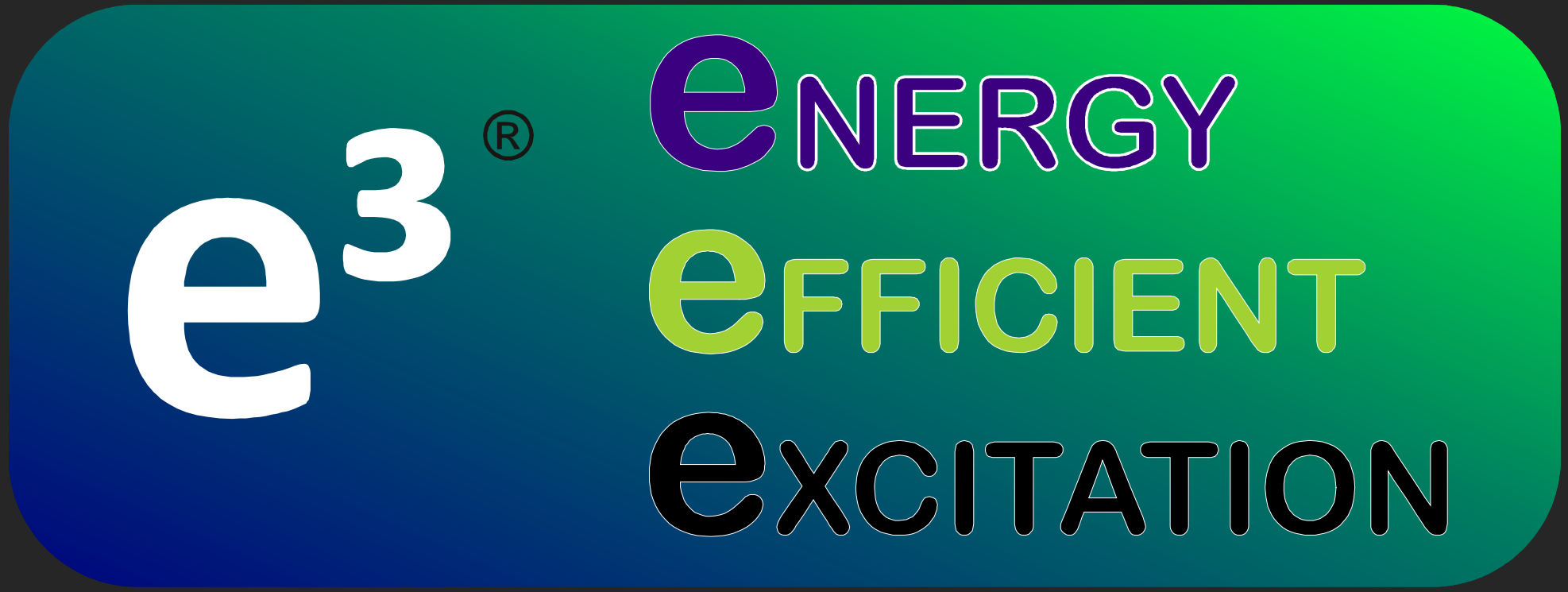
Wammes & Partner

Technologies
Scientific services
Technical analysis
Obsolescence services
TroubleShooting

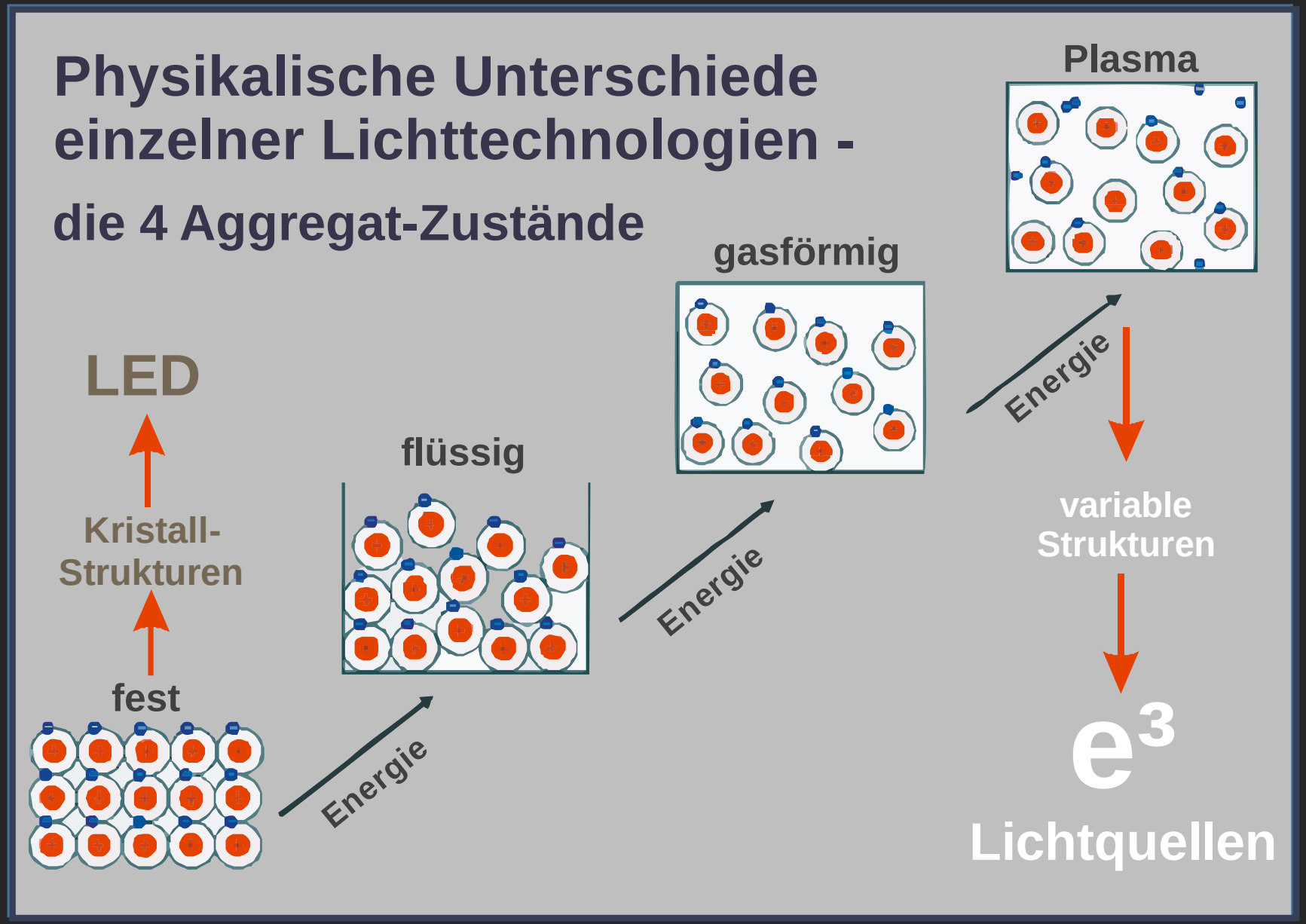
for flatpanel displays and systems
& technical lighting

New lighting technology



We promote our e3 technology under the "Global-Lightz" brand

In each aggregate condition, materia has different specific properties.



Light sources and temperature

LEDs show a pronounced dependence of luminous flux on temperature.
The temperature coefficient depends on the material.

The radiant power of most LEDs drops to less than half when the temperature increases by 100°C (at the semiconductor crystal).

The colder the immediate surroundings are, the more efficient the LED is, which is rather seldom.

Temperature radiators (incandescent lamps) behave in exactly the opposite way.

This is one reason why special attention must be paid to the heat balance when developing and using LEDs.

Heat accumulation in the LED lamp body must be avoided at all costs.

e^3- Plasma works at cold AND hot temperatures!

Viewed on a very large "scale", everything else but "plasma" is actually something special - only not here on earth...

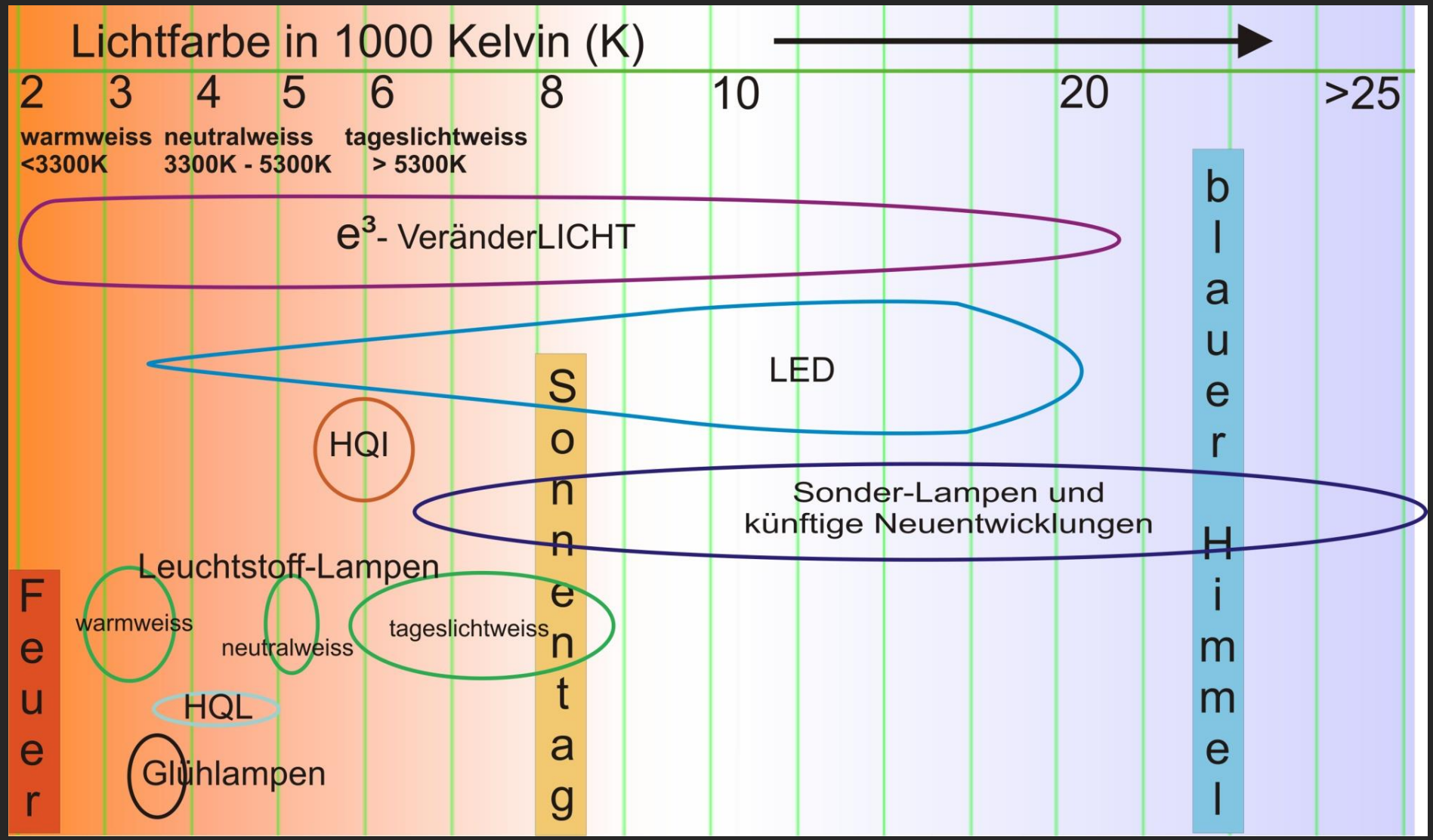
Over 95% of all known matter in the universe exists in the aggregate state "plasma".

Technologies and light colours

The distribution of the spectral emission of e3 lamps can be adjusted/regulated during operation for special types

- also per µC and also very fast.

We have not yet spoken about recycling:
e3 can be completely recycled – LEDs not.



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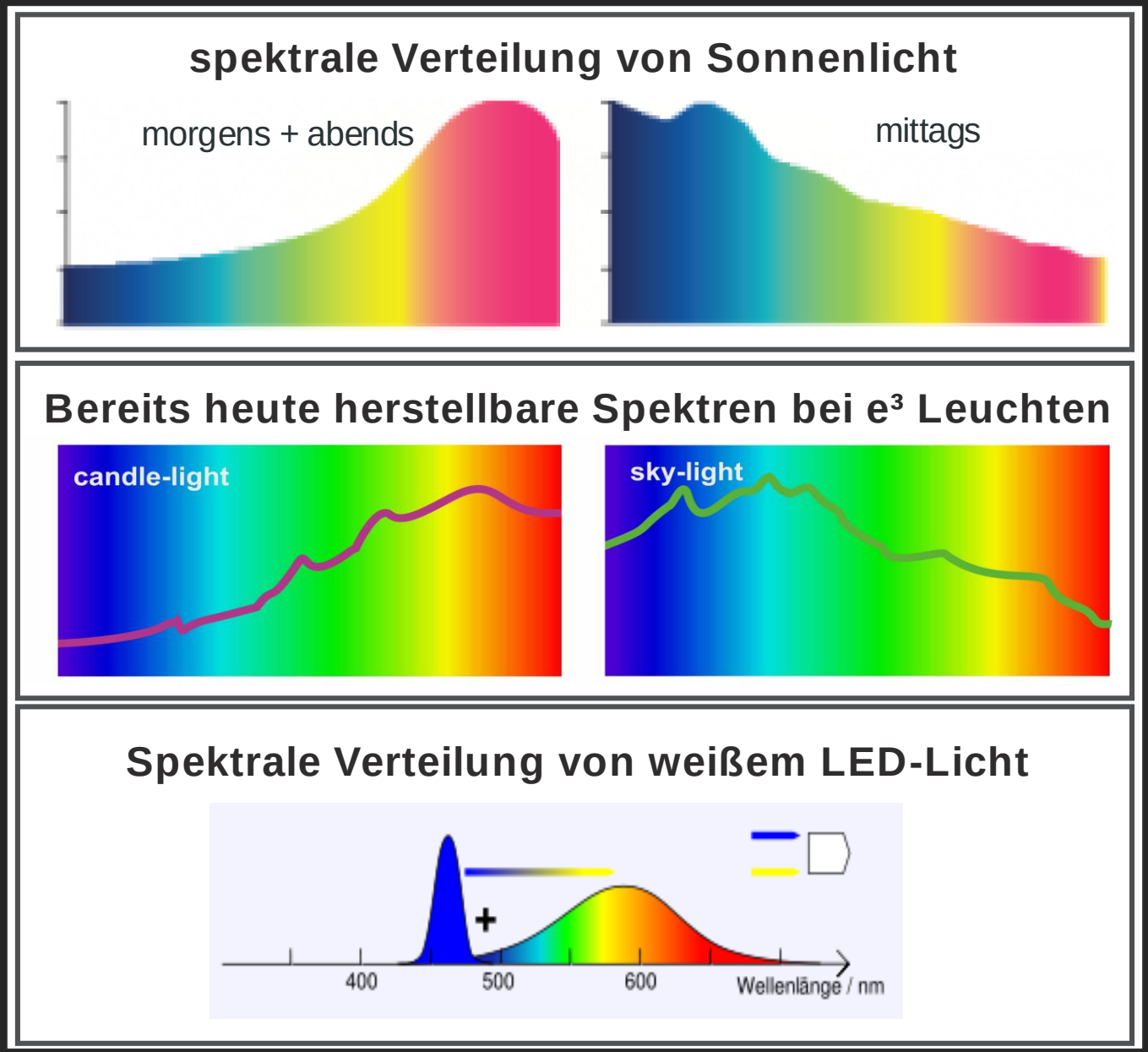
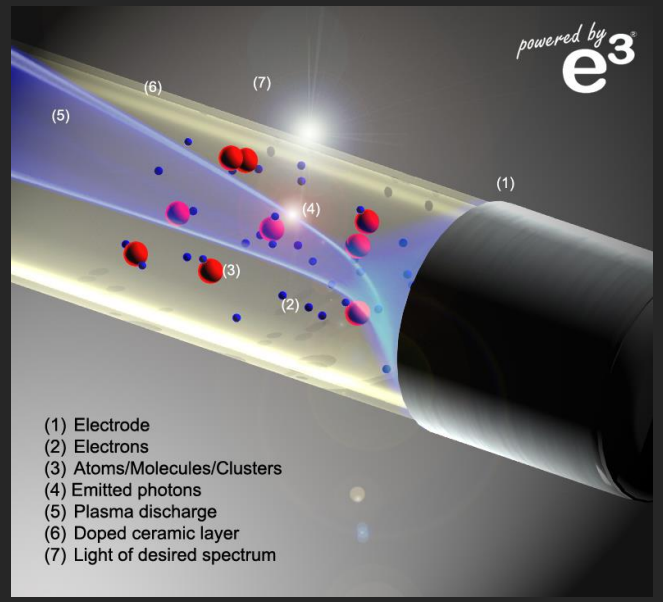
Our e3-lamps can NOT produce monochromatic light - BUT they can produce "white" and "mixed light" in (almost) all imaginable variations.

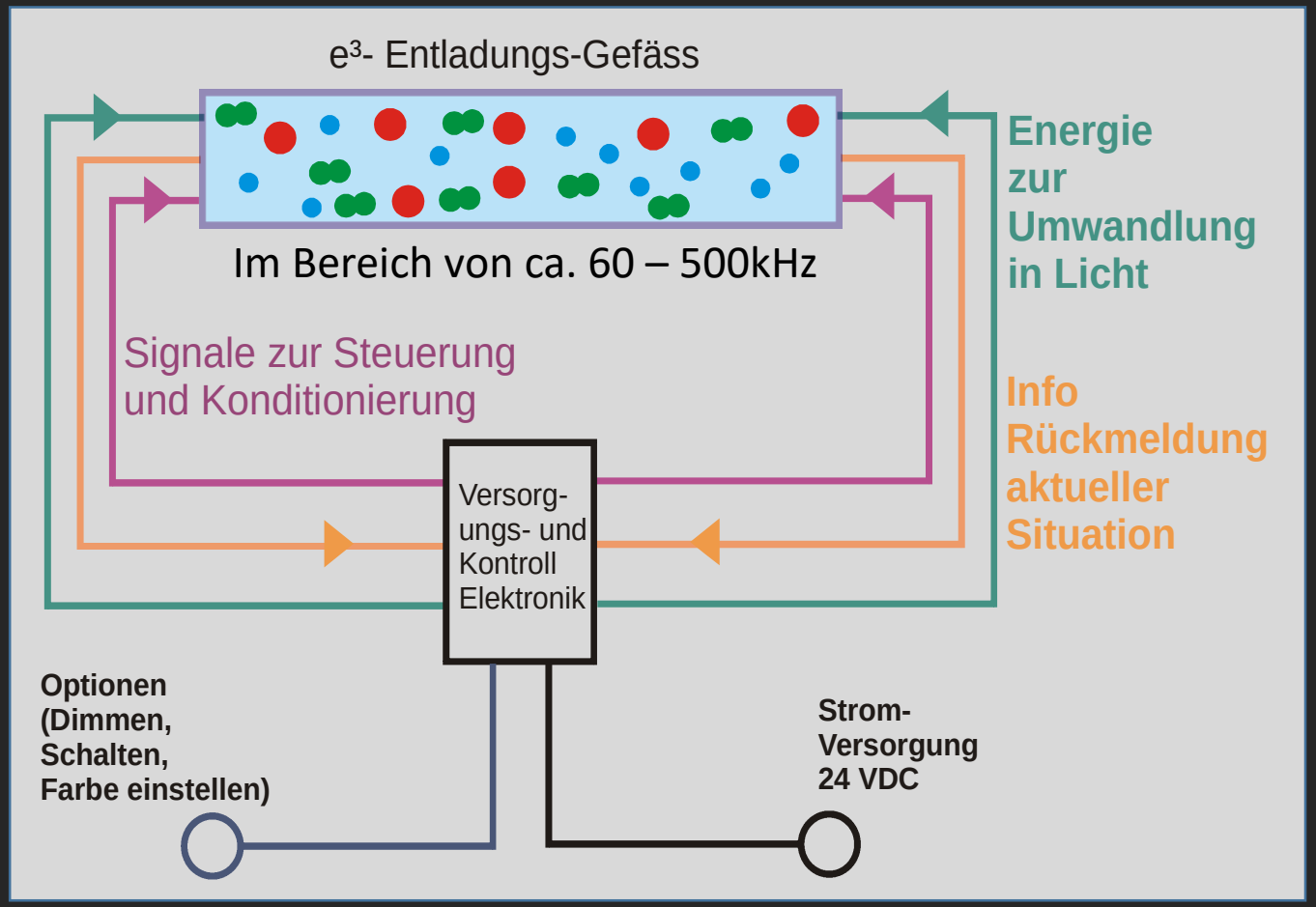
Some types - we call them V-Light (V - stands for "changeable") can dynamically change their output spectrum during operation.

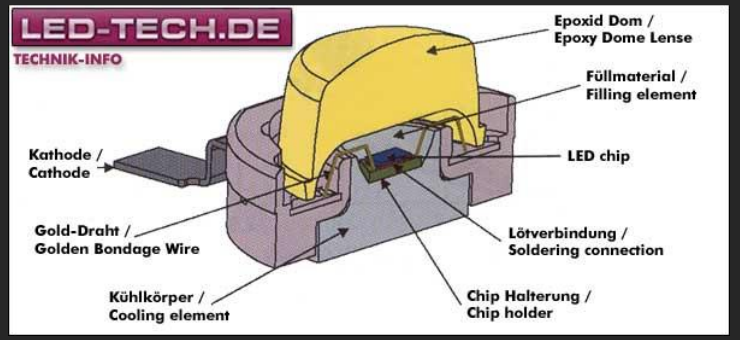
However, not from red to blue or from yellow to green, but decisively along the Planckian curve - and thus also reproduce the spectral course in daylight.



The operating frequency of our e3-lamps is between 60kHz and 500kHz depending on the version - mostly around 100kHz







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For the same spectral emissions LED`s and e3 have comparable efficiencies.

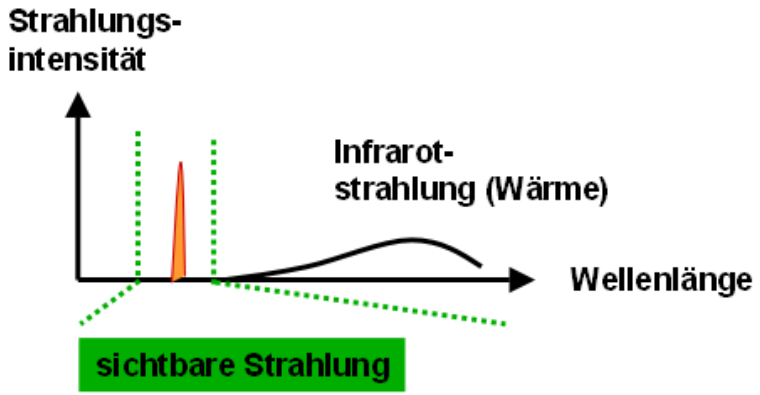
For thermal management behaves e3 behaves clearly different, because
- there is more heat radiation in percentage terms
- there is a larger emission area
- e3 cannot be disturbed by heat (up to several hundred °C)

PHILIPS 10 Prinzipien

Prinzip 4 – Die Lichterzeugung

1. In der Glühlampe erwärmen Elektronen die Wendel.

2. In der LED gibt es neben den negativen Elektronen noch positive Ladungen. Diese gegensätzlichen Ladungen (+,-) erzeugen bei ihrer Neutralisation sichtbares Licht und Wärme.
   LED – Energiebilanz: □ 20 % Licht & 80 % Wärme*



* kaum Wärmestrahlung,
Wärme muss abgeleitet werden !

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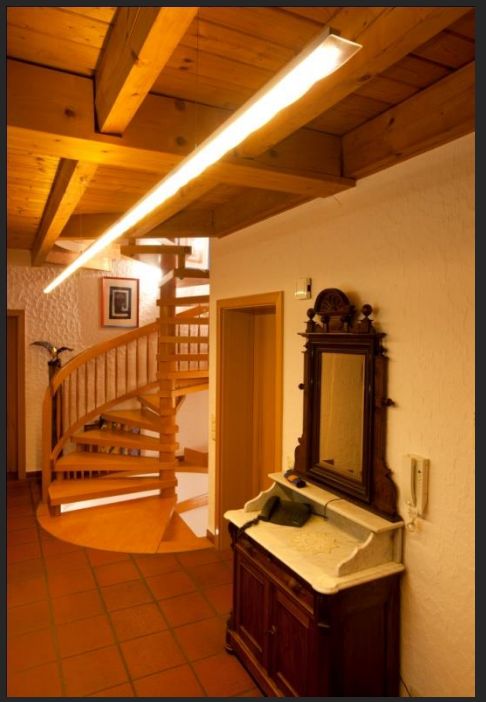
e³

... in use



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Further examples of use...

We do NOT produce any end devices or lamps ourselves.

We promote our technology and help to integrate it into customer projects.
We also sell IP and licenses.

We run a fairly large pilot plant, but it is not designed for quantity, but for technological development.

We are exclusively in the project business.

Thank you very much for your attention!

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You find us at the EDCG