

# Fit-to-NZEB: Policy implementation and innovative training schemes for retrofitting to nZEB-levels

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ENERGY RENOVATION OF BUILDING STOCK TOWARDS NZEB LEVELS

BUCHAREST, ROMANIA, 28<sup>TH</sup> MAY 2019

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# The story of the renovation programmes

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- UNDP demonstration programme “Renovation of Multifamily Residential Buildings”: 2008
- 20% financing in the beginning
- Gradually raised to 50%...
- ...and then to 80%
- 23 projects executed

# The story of the renovation programmes

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- “Energy Renovation of the Bulgarian Homes” Programme, financed through Structural Funds
- 75% financing in the beginning
- Raised to 100% in 2015
- 299 projects (still not) executed



# The story of the renovation programmes

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- “National Programme for Energy Efficiency of the Multifamily Residential Buildings”
- 100% financing since the beginning
- Total budget of 1 billion Euro
- 1364 projects executed
- 2022 contracts concluded
- Renovation to energy class C

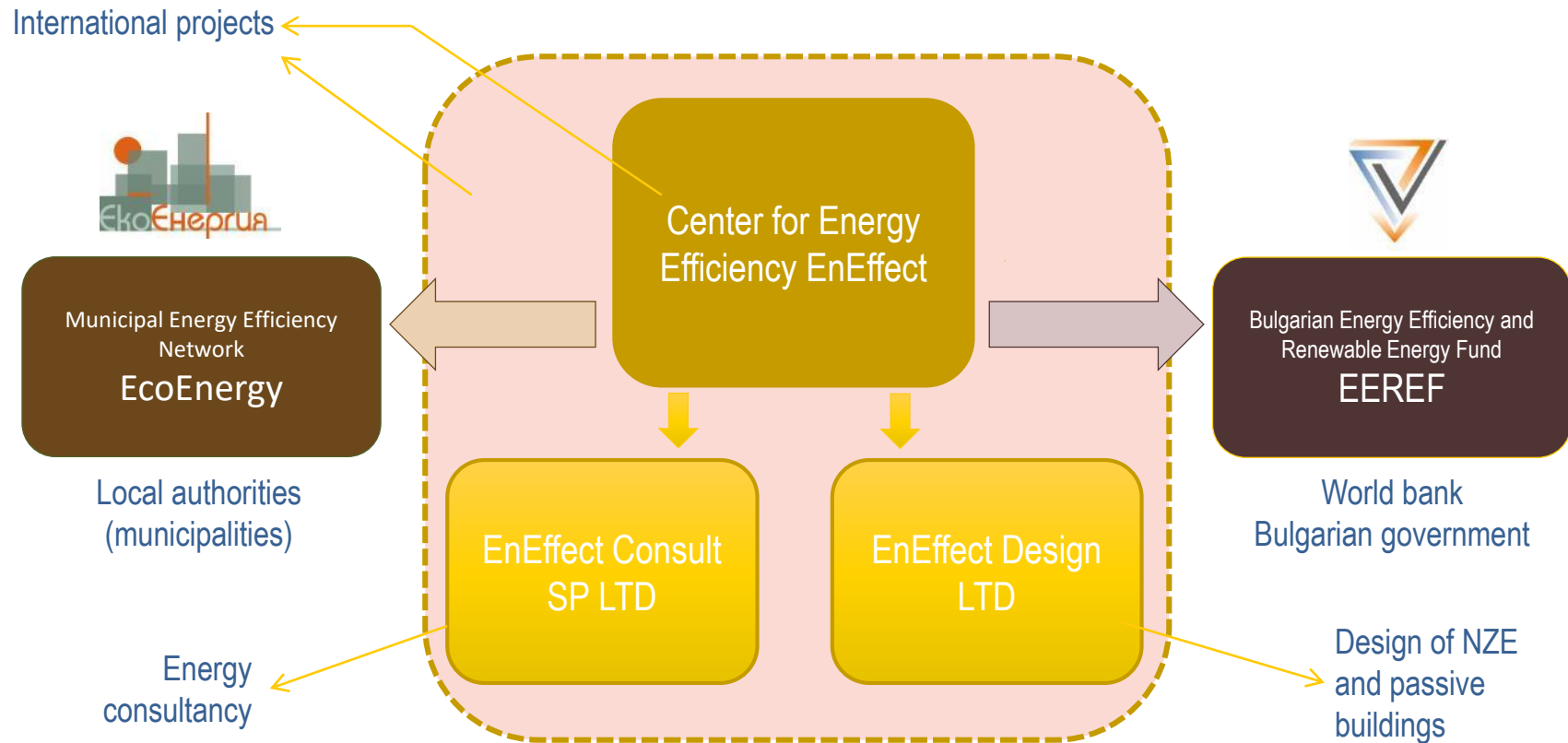


# Issues: stability & engagement

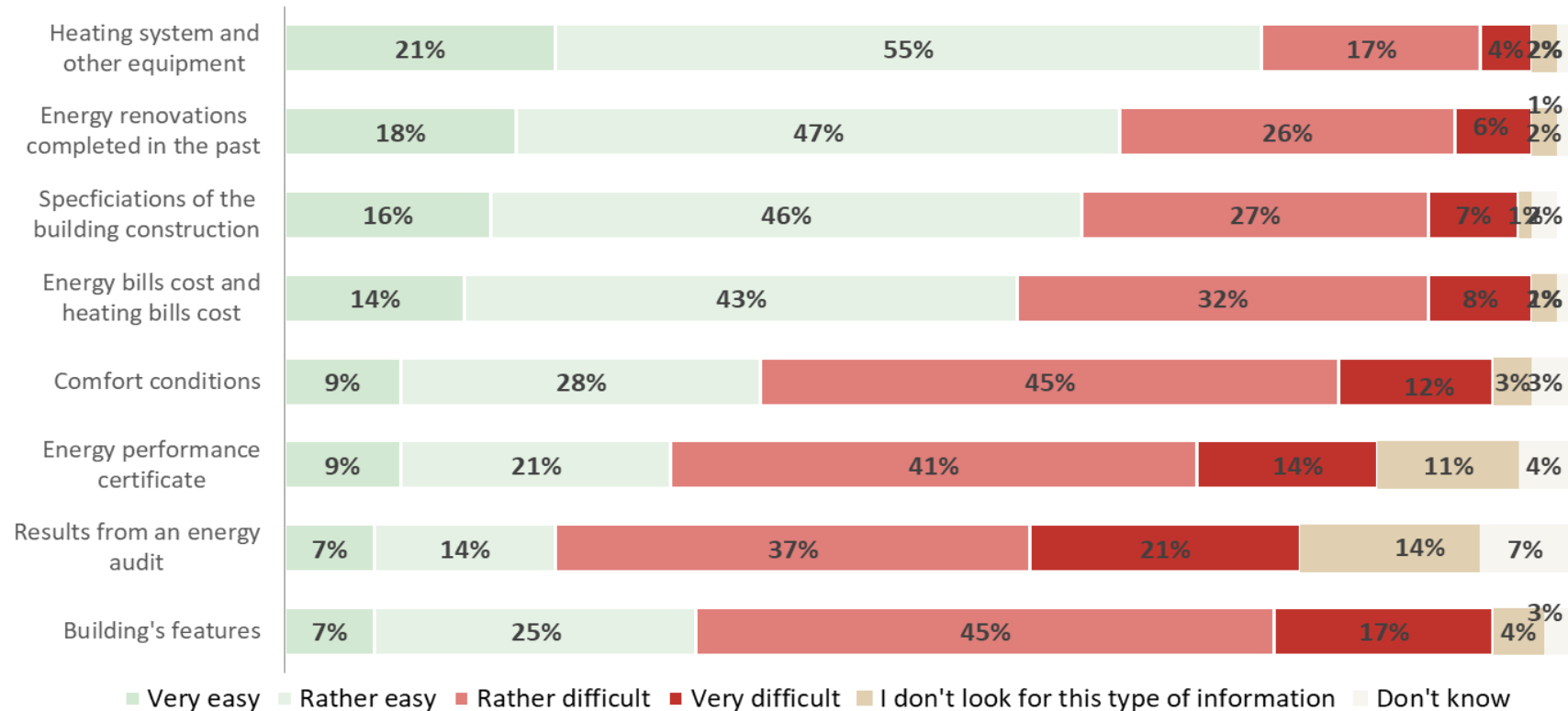
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- Long-term vision: defining of concrete energy savings goals and priorities
- Technical assistance and specialized consulting at municipalities
- Professional capacity building
- Quality assurance and monitoring
- Engagement and responsibility of the beneficiaries / consumers
- Systematic communication campaign



# iBRoad Survey in Bulgaria



# iBROAD Survey in Bulgaria

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- ✓ Respondents are **most likely to trust their friends, family or colleagues** when asking for advice about renovation measures (67%), followed by internet search (37%), or a builder or contractor (29%) or a bank (18%). 9% would trust the energy performance certificate.
- ✓ When asked about who they would consult for information on energy performance, the most common response was to use a **general internet search** (36%) followed by consulting with the builder or contractor (26%), or the previous owner or occupier (20%).
- ✓ **Only 3% of homeowners said that they had had an energy audit.** Of those who had not considered having an energy audit, the main reason was that **they had not thought about it** (43%). Around one in five respondents did not know who would conduct the audit or thought it would be too costly (22% and 18% respectively).





# ECHOES findings

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- ✓ The consumer has made a remarkable journey from being conceived a passive actor responding to policy to the center of the focus of policies; this process culminated in the “Clean Energy for All Europeans” package
- ✓ However, the policy documents display a **rather simplistic understanding** of how consumers make energy decisions
- ✓ One main assumption is that consumers make rational, economic decisions and thus **need to be provided with good financial incentives**
- ✓ The second main assumption is that consumers lack information and **providing them with more information will change their behaviour** to the better
- ✓ **Both assumptions neglect many other relevant influences** on people’s choices, such as habits, social norms and values, trust, focus on comfort, emotions, etc.

# ECHOES conclusions

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- ✓ The reflection of social processes needs to be better in policy documents
- ✓ Policy documents seem overly focused on individual behavior and oversee the impact of group processes
- ✓ The **embeddedness of energy behavior in lifestyles and culture** is underrepresented
- ✓ This also opens the question of **diversity of consumers**, which is not well reflected
- ✓ Policy-makers should make their assumptions about human decision-making explicit
- ✓ Social scientist should dare to give clearer policy advice

# Make a party!



# Train-to-NZEB: The Building Knowledge Hubs

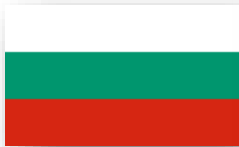


- Improving the training facilities: new BKHs in Bulgaria, Romania, Czech Republic, Turkey and Ukraine
- ToRs for equipment and services,
- Business plans
- Innovative training programmes
- Qualified and attractive trainers
- Trainings for 2400 construction workers, 480 designers and 720 non-specialists





# The BKHs



[www.train-to-nzeb.com](http://www.train-to-nzeb.com)  
[www.fit-to-nzeb.com](http://www.fit-to-nzeb.com)



# The BKHs



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# Fit-to-NZEB

2020 and 2030 objectives  
represent a major challenge

Inclusion of training on  
intelligent EE and RES solutions  
in building renovation

**READINESS OF CONSTRUCTION SECTOR  
TO DELIVER HIGH LEVEL ENERGY  
RENOVATIONS AND nZEB**

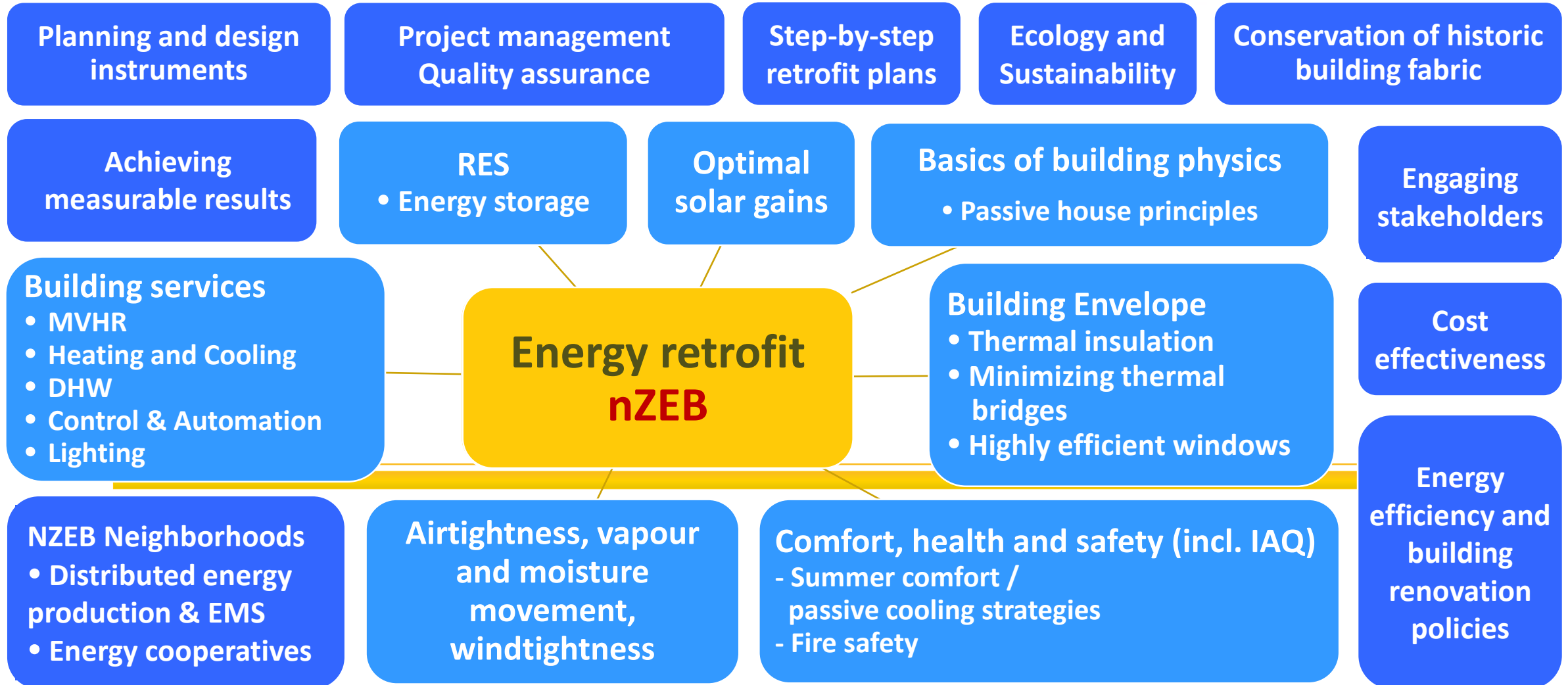
Accessibility and quality  
of educational programmes

Increase of the number  
of construction specialists  
at all levels





# Learning Outcomes



# Fit-to-NZEB: Programs



- 1) For institutions of higher education (EQF 6-7): **60 h**  
(30 h lectures & 30 h seminars)
- 2) For professional high schools
  - “Construction” professional direction (EQF 3-5): **60 h**  
(24 h lectures & 36 h practical lessons)
  - “Electrical engineering & energy sector” prof. direction (EQF 3-5): **36 h** (12 h lectures & 24 h practical lessons)
- 3) For Vocational Training Centres (incl. on-site, EQF 2-5):  
**12/16/40 h**
  - Building Envelope,
  - Mechanical Systems

# Fit-to-NZEB: Pilot training courses



- 1) Train the trainer – completed for more than 150 lecturers/trainers
- 2) For institutions of higher education (EQF 6-7): **Bulgaria, Croatia** (completed), **Czech Republic** (ongoing),
- 3) For professional high schools (EQF 3-5): **Italy** (completed), **Romania** (ongoing), **Bulgaria** (ongoing), **Czech Republic** (MoUs)
- 4) For Vocational Training Centres (incl. on-site training, EQF 2-5): **Ireland, Italy, Bulgaria, Greece, Romania, Czech Republic** (ongoing)
- 5) Validation schemes: **Bulgaria** (x2 - ongoing)



# The BKHs



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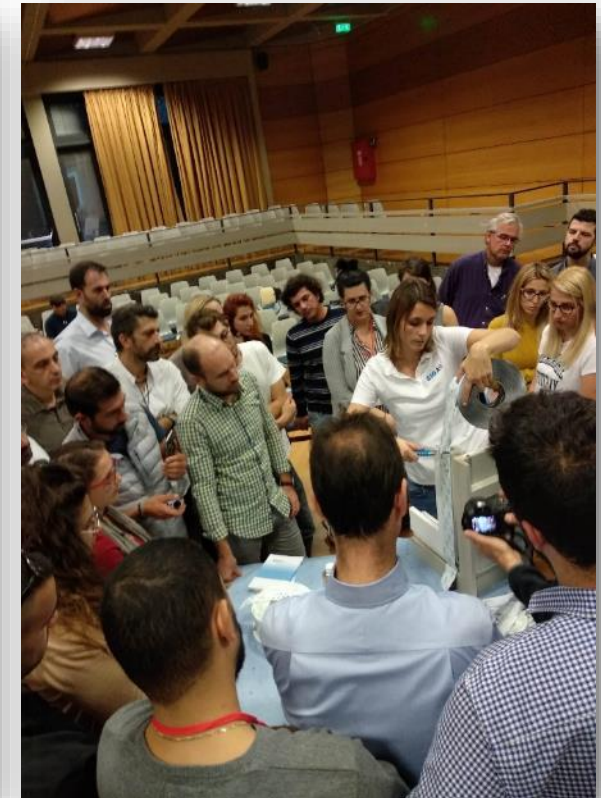


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# Another step: CraftEdu



- National qualification & training scheme in the Czech Republic; market development in Slovakia, Austria and Bulgaria;
- 7 new VET programmes in the CZ and 5 in SK
- Elaboration of common learning outcomes leading to mutual recognition of the acquired qualification;
- Piloting of the courses with 100 participants in the Czech Republic and Slovakia and 40 in Austria and Bulgaria;
- Mass rollout within the VET systems of the CZ and SK  
Development of new e-learning programmes

# Communication



It's never, never enough...

● Web:

[www.train-to-nzeb.com](http://www.train-to-nzeb.com)

[www.fit-to-nzeb.com](http://www.fit-to-nzeb.com)

[www.craftedueu.eu](http://www.craftedueu.eu)

● Facebook:

[www.facebook.com/fit2nzeb/](http://www.facebook.com/fit2nzeb/)

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# Craft the message



**Our exclusive  
Dreikugelwirbelwannenbrennraum.**

You get it in the new BMW Bavaria.  
6 cylinders, 2.8 liters, 130 mph. Under \$5,000. Wundercar!

What is it? Take a little free German lesson.  
Drei means three.  
Kugel is ball or hemisphere.  
Wirbel means swirl.  
Wannenbrennraum means combustion chamber.  
Put it all together and you have a triple-hemispheric swirl-injection combustion chamber. The main reason why the power output of the new BMW Bavaria 2.8 liter engine beats any automobile engine its size.  
Our engineers have configured the new BMW's cylinder heads

this way to produce smoother ignition, more complete combustion and more efficient utilization of fuel. The result is a powerful, quiet-running engine with long trouble-free life.  
An engine that hits 130 mph with ease, lets you cruise effortlessly at 120 mph.  
And we haven't neglected your comfort, either. The interior of the new BMW Bavaria is roomy with an undeniable elegance that makes the car unique as a sports sedan.

Why not go to your nearest BMW dealer and let him show you? Better yet, ask him to let you test drive BMW's new Bavaria. And if you think our Dreikugelwirbelwannenbrennraum is something, wait till you see our Doppelventiltriebssanlsage.

**BMW**  
Bavarian Motor Works  
in Munich, city of the 1972 Olympics





# Craft the message



## SOME SIGHTS YOU NEVER FORGET.

Like the dramatic effect of a solar eclipse, one glimpse of the all-new BMW 6 Series Gran Coupé will create an everlasting impression. It is a vision of BMW at its purest, elegantly showing beauty and power as one. This captivating all-new BMW 6 Series Gran Coupé is the first 4-door Coupé in BMW's history, illustrating the breathtaking combination of sports car meeting luxury saloon. For a closer look at this powerful stellar attraction, contact your local BMW dealer for a test drive or visit [www.bmw.com](http://www.bmw.com)

**THE ALL-NEW BMW 6 SERIES GRAN COUPÉ.**

**BMW EfficientDynamics**  
Less emissions. More driving pleasure.



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# Craft the message

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# Personal Engagement



# Contact Information

## Web

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[www.facebook.com/eneffect/](https://www.facebook.com/eneffect/)

## Twitter:

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# Thank you for your attention!

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