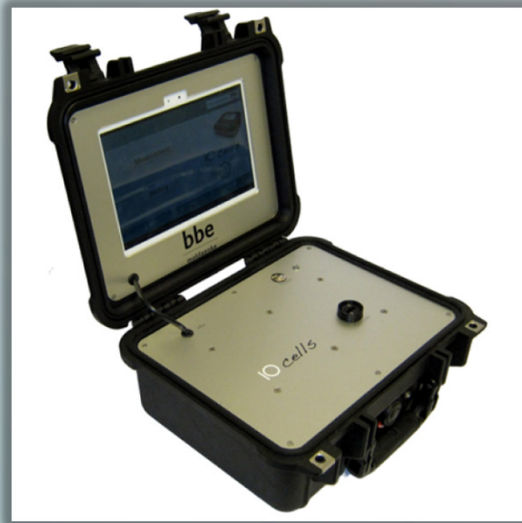




## ***bbe IO cells***

***New Measuring Instrument for the  
Indicative Investigation of Ballast Water***





## The Best First: the Advantages of bbe IOcells

- Resolution: 1-2 cells/ml
- Very simple operation
- Measurement within approx.1 min
- Based on fluorescence ( $f_{\text{variable}}$ )
- No chemicals
- No 'infection' by the sample-taker

10 cells



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**bbe**  
moldaenke

## The use of the bbe 10cells



## The Instrument's Application in Water Works for Testing Treatment Steps --- a useful application?

After

- Pre-Chlorination
- Ozonotaiion
- Filtration
- Flokkulation

Steps



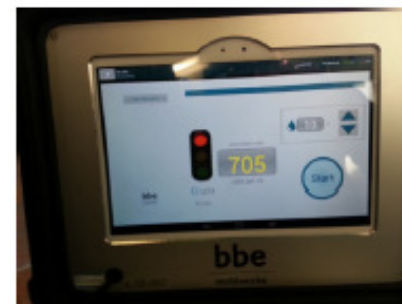
## First Water Works Application: River Dam

Raw Water

Filter Size:

8µm

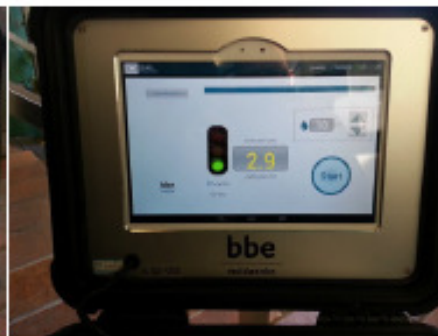
Rohwasser: ca 4 µg/l Planktothrix (AOA)





Filtered  
Water

Wasser nach 1. Filterstufe: ca 0,4 µg/l Planktothrix (AOA)





## Second Application: River Water

Raw water	Danube River
Flocculation	
Sand Filtration and Ozonation	

	10cells	
	3µm filter [cells/ml]	1,2µm filter [cells/ml]
raw water	416	436
after flocculation	60	67
after filtration	0	0





We have found an extremely suitable method to be able to measure ballast water concentrations (algae) in the range of  $10\mu\text{m}$ - $50\mu\text{m}$  upto far below 10 cells/ml.

This idea has now been implemented by the new I0cells instrument.

Many thanks for your attention!