

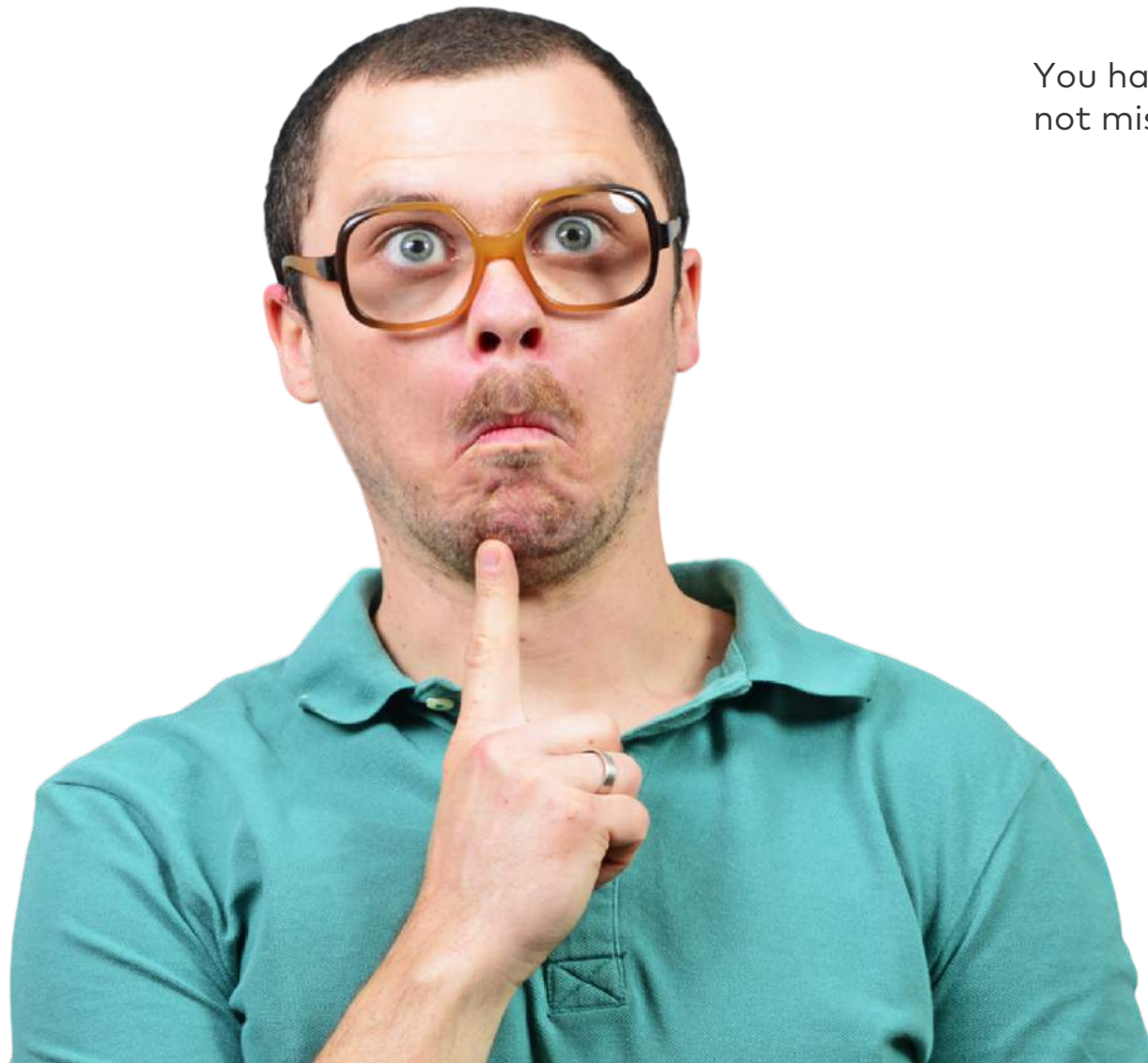


Solar panels quality shouldn't be taken for granted

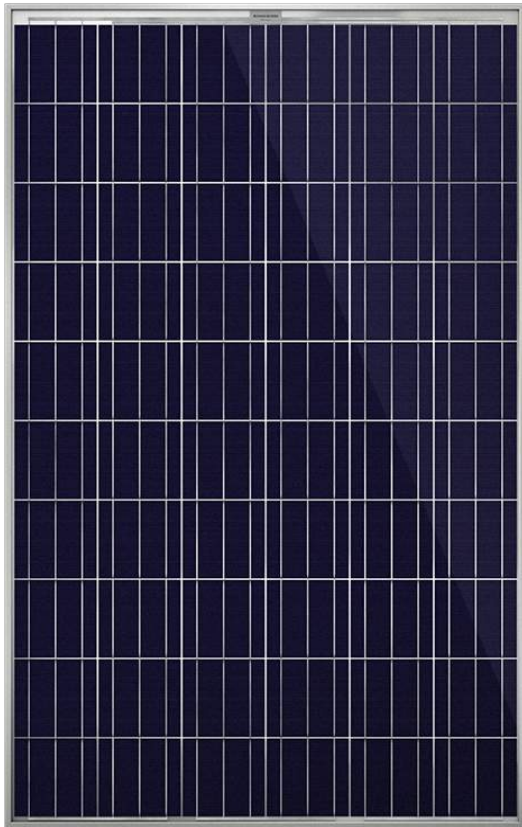
Why the widespread belief that all modules are the same is dangerous for your business

Say you have to choose a PV module supplier for your next project.

You have plenty of choice as the potential suppliers are not missing.



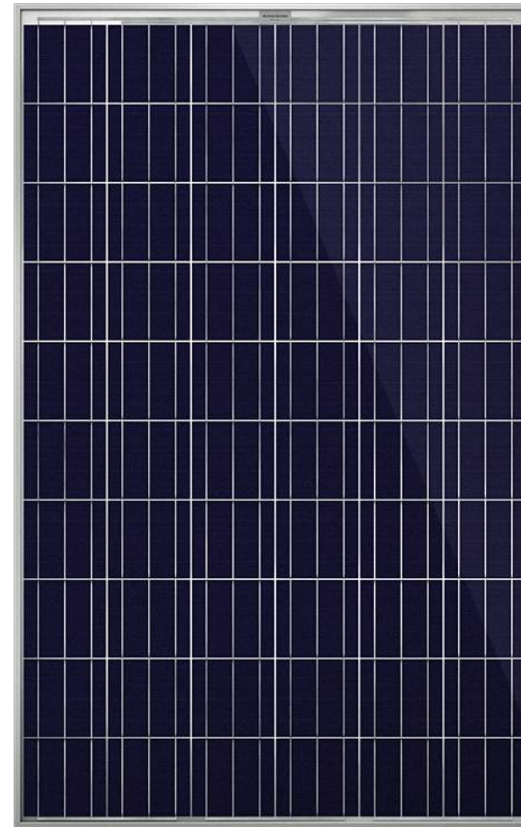
After all, what's the difference between two modules?



Brand X



Datasheet X

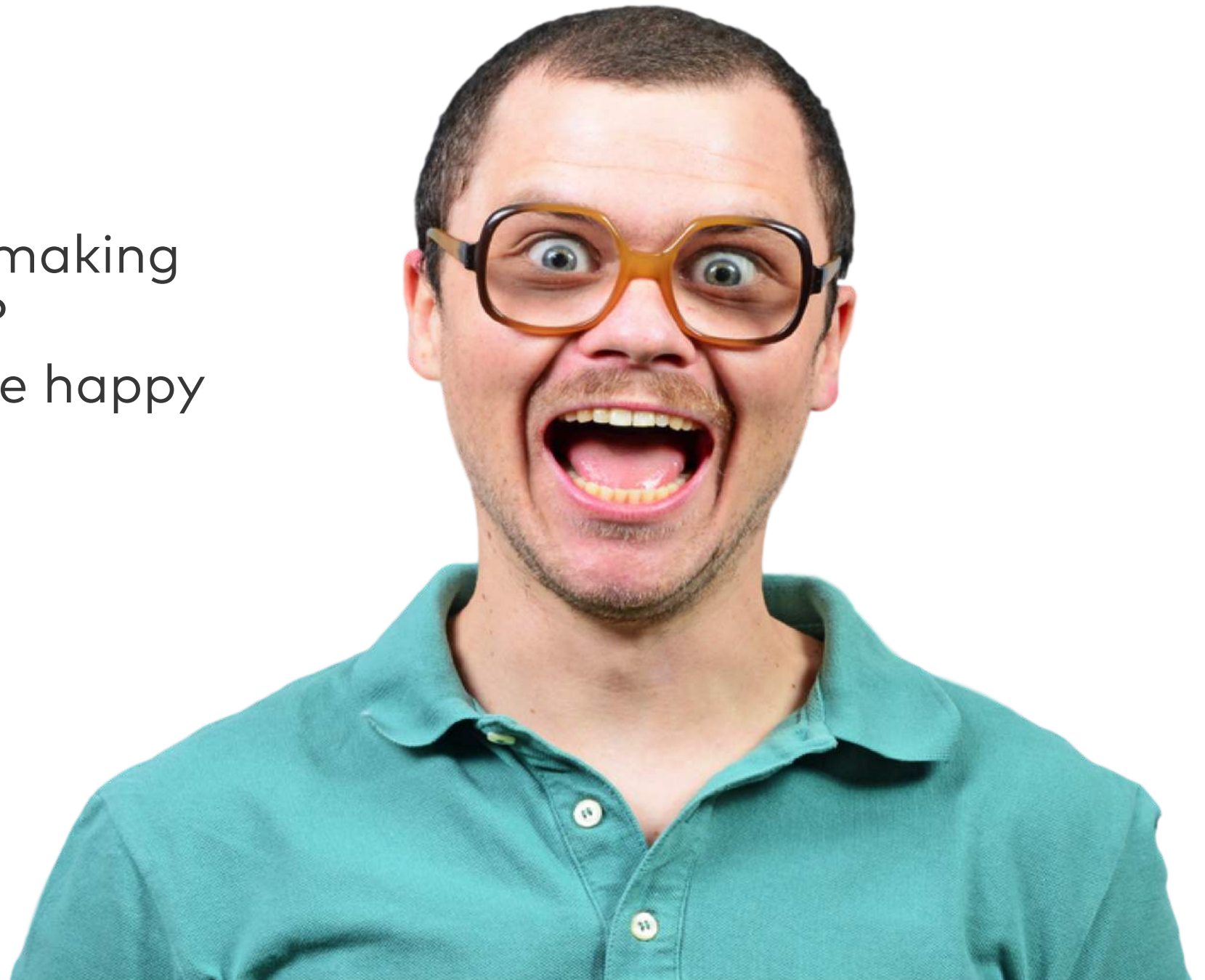


Brand Y



Datasheet Y

So why not making
a good deal?
You would be happy



And your customers would get
their yields in any case



Seems like a great plan.
Right?

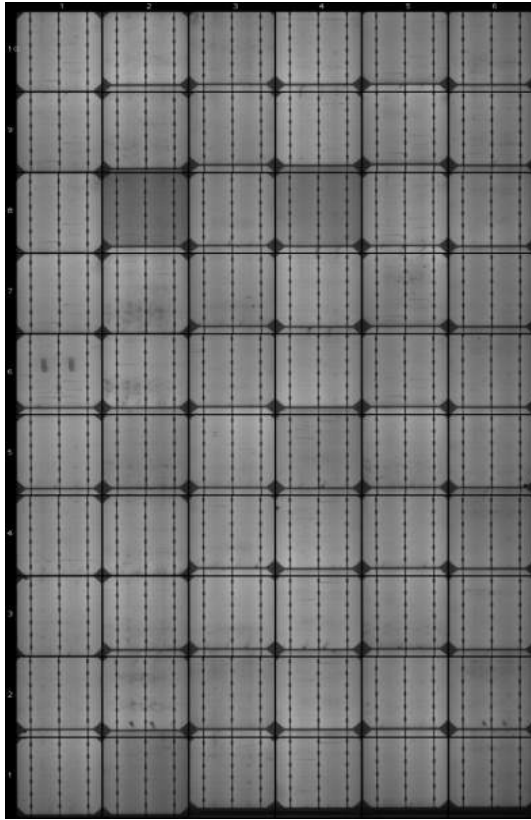
« Everybody has a
plan until they
get punched in
the face »

- Mike Tyson -



Quality problems
actually
appear a couple
of years later

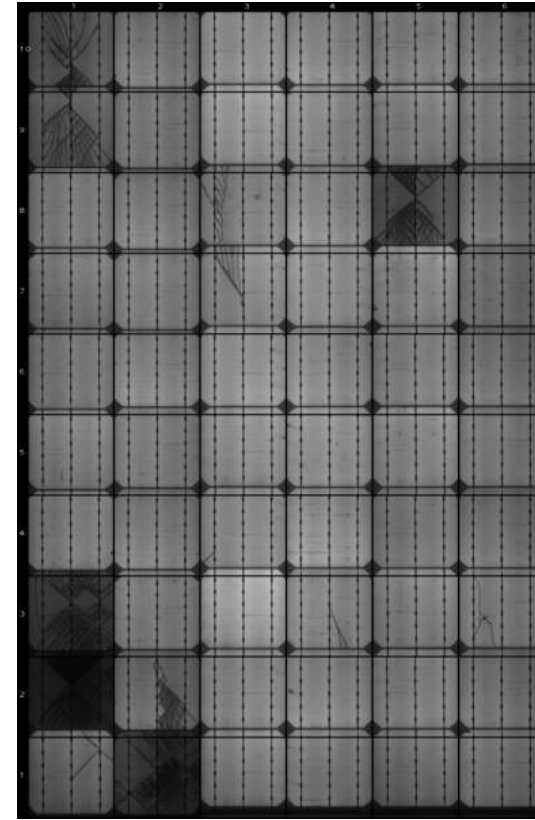
Indeed, you could not see this
on the datasheet



Module X



Datasheet X



Module Y



Datasheet Y

Nor expect that during operation



How can this happen?
The module you bought were
IEC 61215 certified

“passing the qualification test means the product has met a specific set of requirements. Those modules that have passed the qualification test are much more likely to survive in the field and not have design flaws that lead to infant mortality”

- John Wohlgemuth -

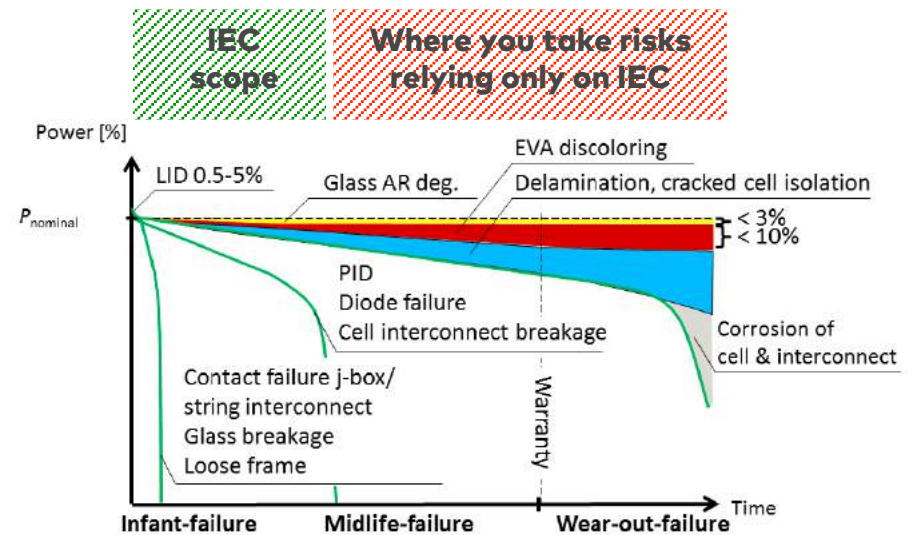
*IEC 61215: what it is and isn't, NREL 2012 PV
Module Reliability Workshop*



The IEC certification does not guarantee 25 years without problems

It reduces the probability of infant mortality in the very first years of operation. Problems might appear years after the installation.

It is a long time!



Source: Review of failures of Photovoltaic Modules, IEA PVPS Task 13, March 2014

The New York Times

« Solar Industry Anxious Over Defective Panels »

May 28, 2013



“Based on our testing, some manufacturers are absolutely swapping in cheap Chinese materials to save money”

Jenya Meydbray | CEO of PV Evolution Labs, a Berkeley, Calif., testing service.

“a review of 30,000 installations in Europe by the German solar monitoring firm Meteocontrol found 80 percent were underperforming.”

“We have inspectors in a lot of factories, and it’s not rare to see some big brands being produced in those smaller workshops where they have no control over quality,”

Thibaut Lemoine | General Manager of STS Certified, a French-owned testing service.

You thought all the panels
behave the same
during 25 years?



« Dupont began a global outdoor field study project in 2011 to measure what the impact of different climate conditions, across a range of different regions, might be on components reliability and integrity. From 2011 to 2014, the study covered more than 60 global PV installation, from 1 kW to 20 MW, representing 1,5 million PV modules and total power output of over 200 MW »

Source: Typical climate stress and impact on module degradation and material failure in different areas of China, PV Tech Power, May 2016

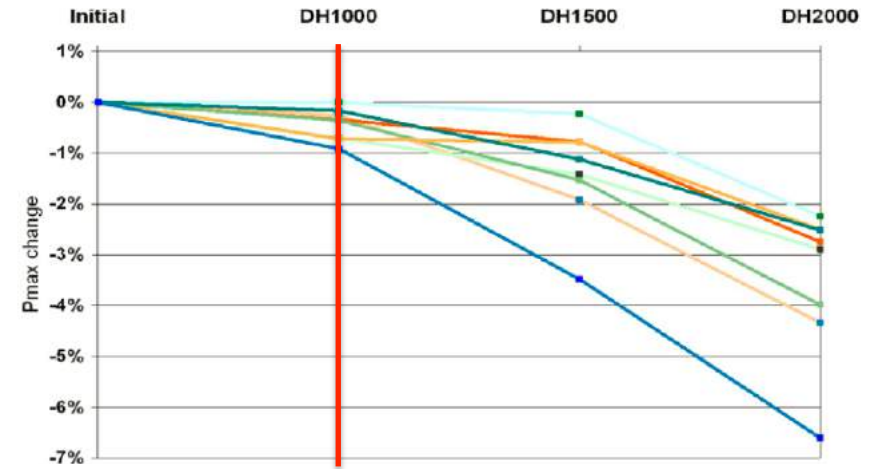
41%

of components had visual defects

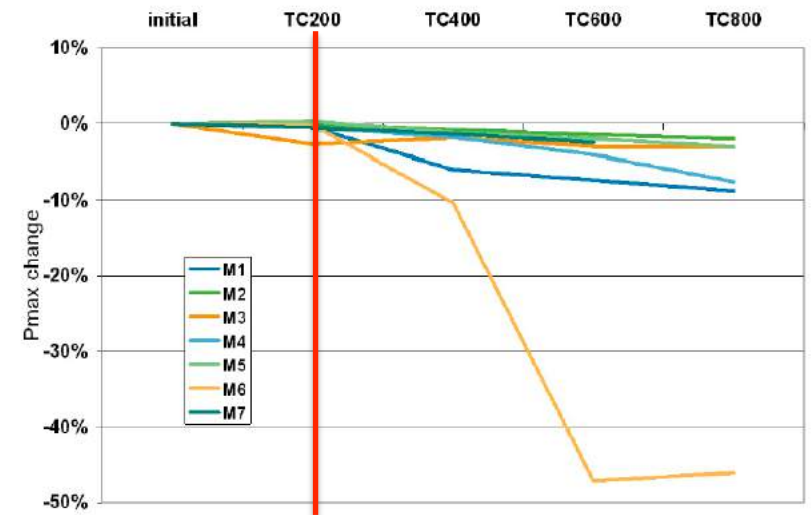
Not all solar panels behave the same

It is no surprise when you know that differences appear
when going beyond IEC requirements

- : Damp Heat IEC requirements



- : Thermal Cycling IEC requirements



That's why there are initiatives to develop accelerated stress tests

that better simulate expected lifetime of PV modules.
But they are not mandatory



PV Durability Initiative



Qualification Plus Testing



at aleo, we give our best for
the yields you promised your
customers to materialize

Testing beyond IEC requirements

We have stringent raw materials selection criterions to ensure module stability during 25 years

Consistent quality management system

We have well established quality processes to ensure a consistent quality on all our products while this is not required by IEC

- ISO 9001
- ISO 14001
- ISO 50001
- OHSAS compliant
- PID free
- Salt mist corrosion resistance
- Ammonia corrosion resistance
- 100% diodes tested
- 100% snail trail free

Top marks granted by independant tests in the last decade

 **Fraunhofer** / 2012 - PVDI
ISE

ÖKO-TEST / 2010

 **test** / 2006

You cannot choose
between brand X and
brand Y believing
everything will be equal but
the price

So is it worth losing a
business reputation and
customer satisfaction for a
couple of € cts/Wp gained
with a cheap solution?

« The bitterness of poor quality
stays long after the sweetness of
a low price is forgotten »

- Benjamin Franklin -



Ready to offer the best
to your customers ?

[click to get in touch](#)



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