

IREC INDEX
Wind energy indexes

Annual report 2019

FRANCE
GERMANY
U. KINGDOM
DENMARK
BENELUX

Making Sense of Wind Energy Indexes

What is an energy index ?

An energy index is a tool that enables you to put your wind farm production into perspective with the actual wind resource available at the same time. It corresponds to the ratio between the wind energy available over a given period (month, quarter or year) and over a long term period (reference period).

As an example, an energy index equal to 95% for a specific year means that, on average in the region considered, the production expected for the wind farm should be 5% below the one expected on average over the last 10 years. Be aware that this long term expected production might be different from the production target established pre construction (theoretical versus operational P50).

Why a range for each region ?

Within each region, although the wind resource available is globally similar, some nuances exist from one farm to another depending on their specificities (exposure, turbine types...). Hence, the range provided proposes an order of magnitude of the variations that can exist from one farm to another. The further the index is from 100%, the wider is this range.

For what purpose ?

Using energy indexes allows assets managers to ensure that the variation of the wind farm production is consistent with the variation of the actual wind resource. Indirectly, such analysis allows to appreciate the effective long-term production capacity of a wind farm but also to analyse the evolution of its production capacities over time (performance stability).

Note that a relevant use of the energy indexes requires a satisfactory knowledge of the turbine's monthly availability rates for the studied wind farm.

Not sure how to use it ? *Come to our one-day training session in Paris*

Since 2016, Eoltech and Metrol have set up a one day training session (Windex) in Paris to learn how to use energy indexes. This session, mainly designed for asset managers, is also given to operators, developers, banks and investors.

More information on Windex training session: www.eoltech.fr

About IREC Index

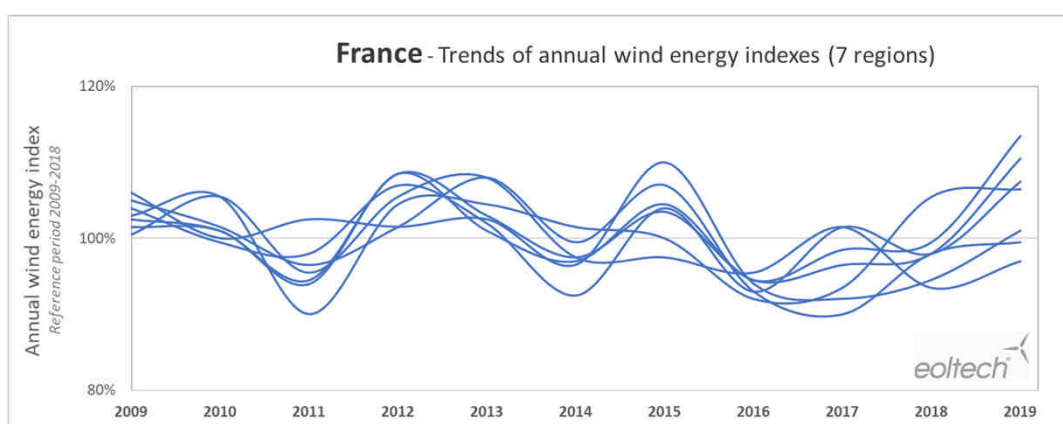
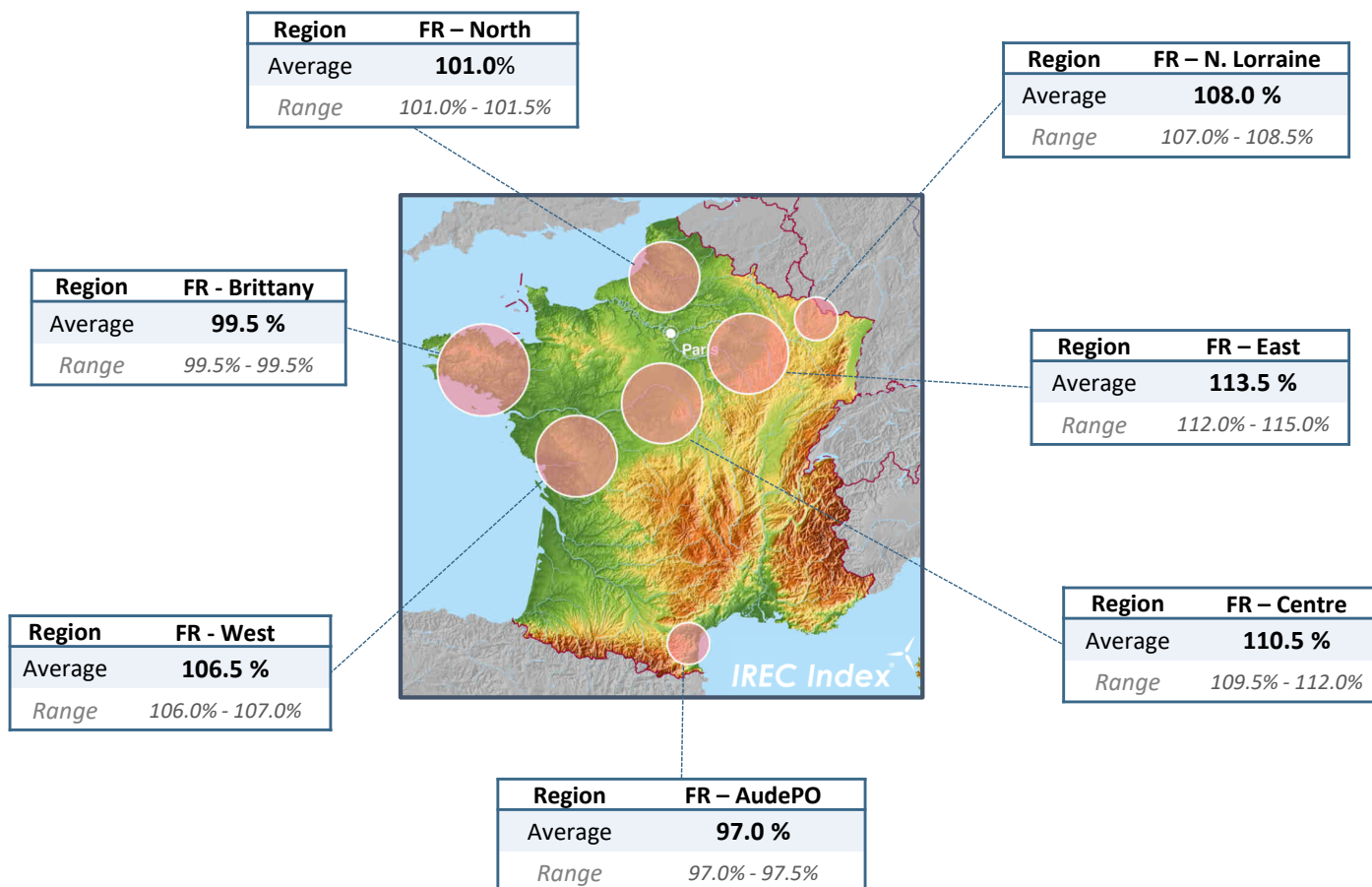
Eoltech's wind energy indexes enable you to quantify the responsibility of the wind resource in your asset output over a given year. Our wind energy indexes are:

- ✓ **EASY-TO-USE:** Direct correlation with your annual production data,
- ✓ **PROVEN:** Created in 2011 and validated over 170+ operating wind farms,
- ✓ **INDEPENDENT:** Developed by Eoltech, the leading independent French expert in wind resource

IREC Index France Annual wind energy index

Period : January – December 2019

Reference period: January – December 2009 - 2018



General terms of use

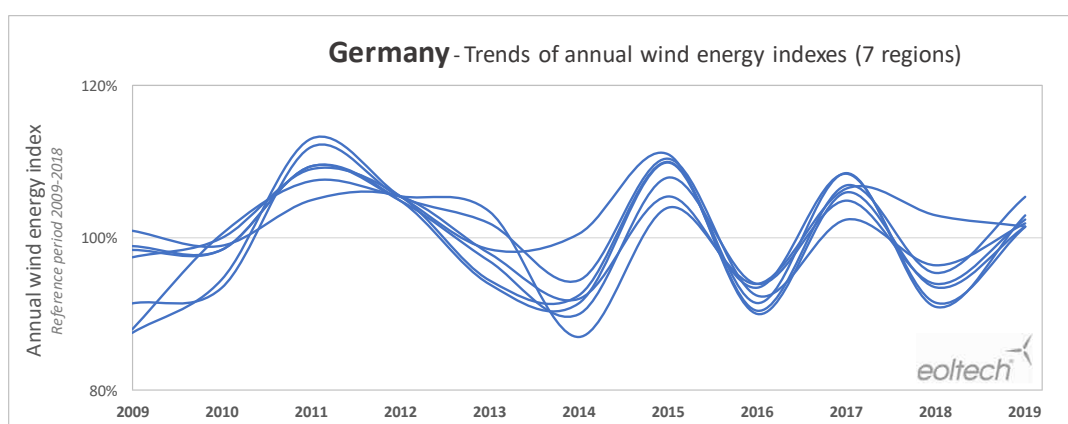
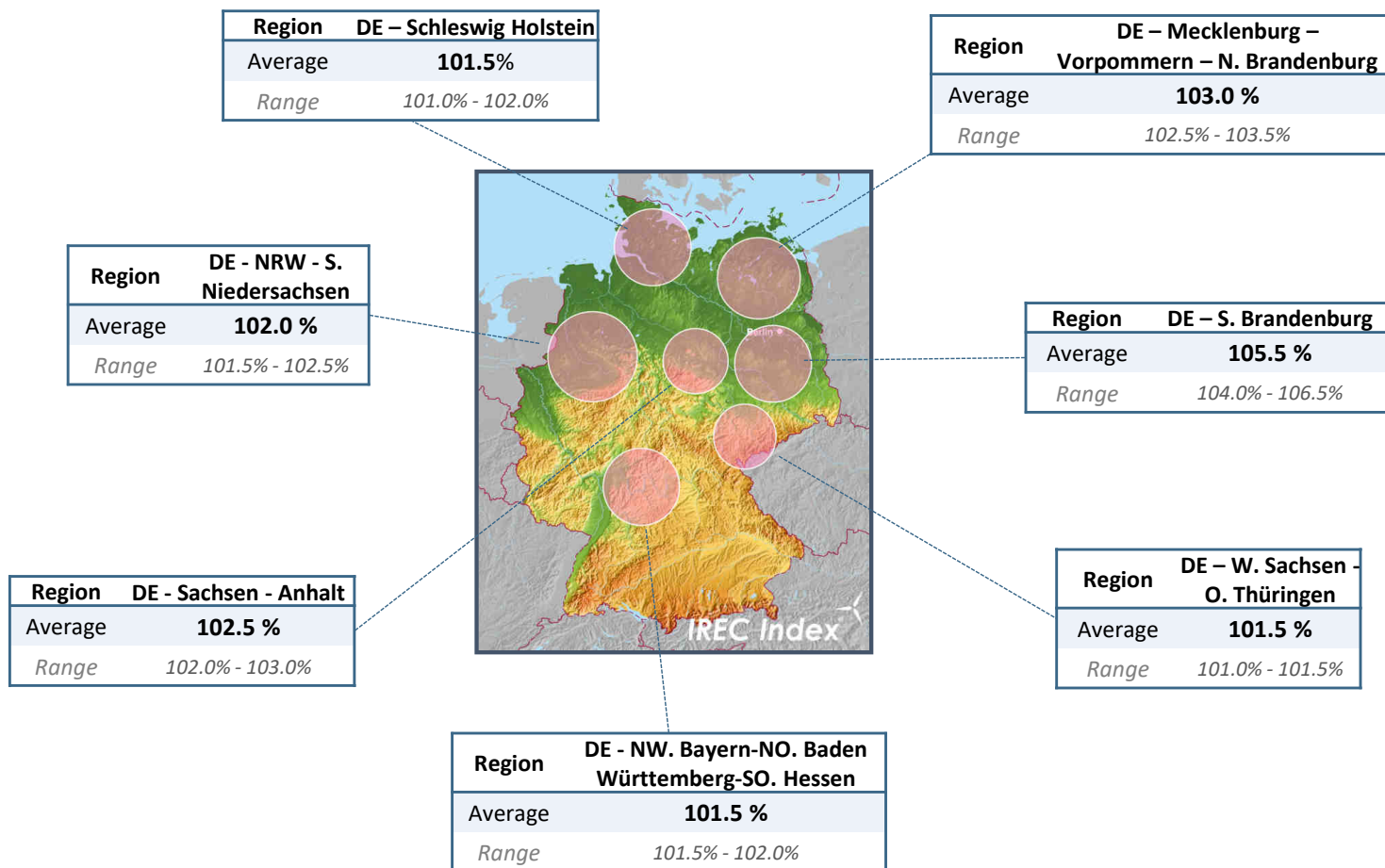
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IREC Index Germany Annual wind energy index

Period : January – December 2019

Reference period: January – December 2009 - 2018



General terms of use

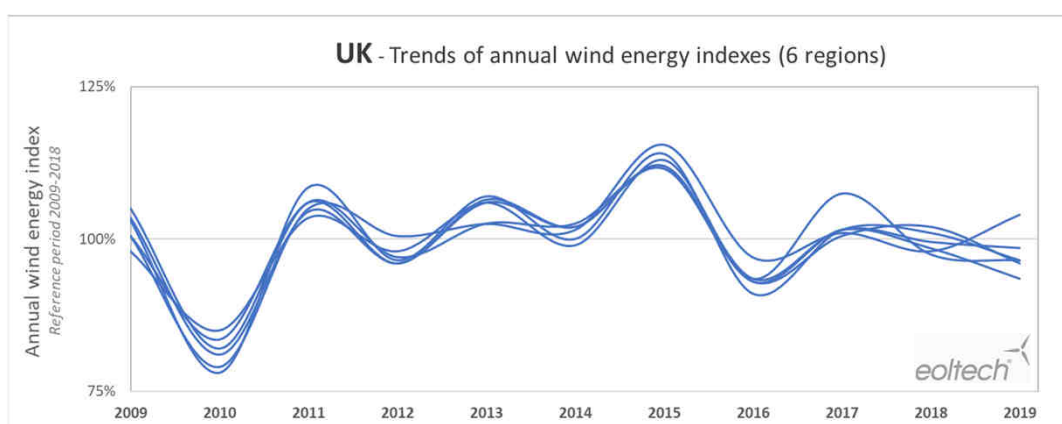
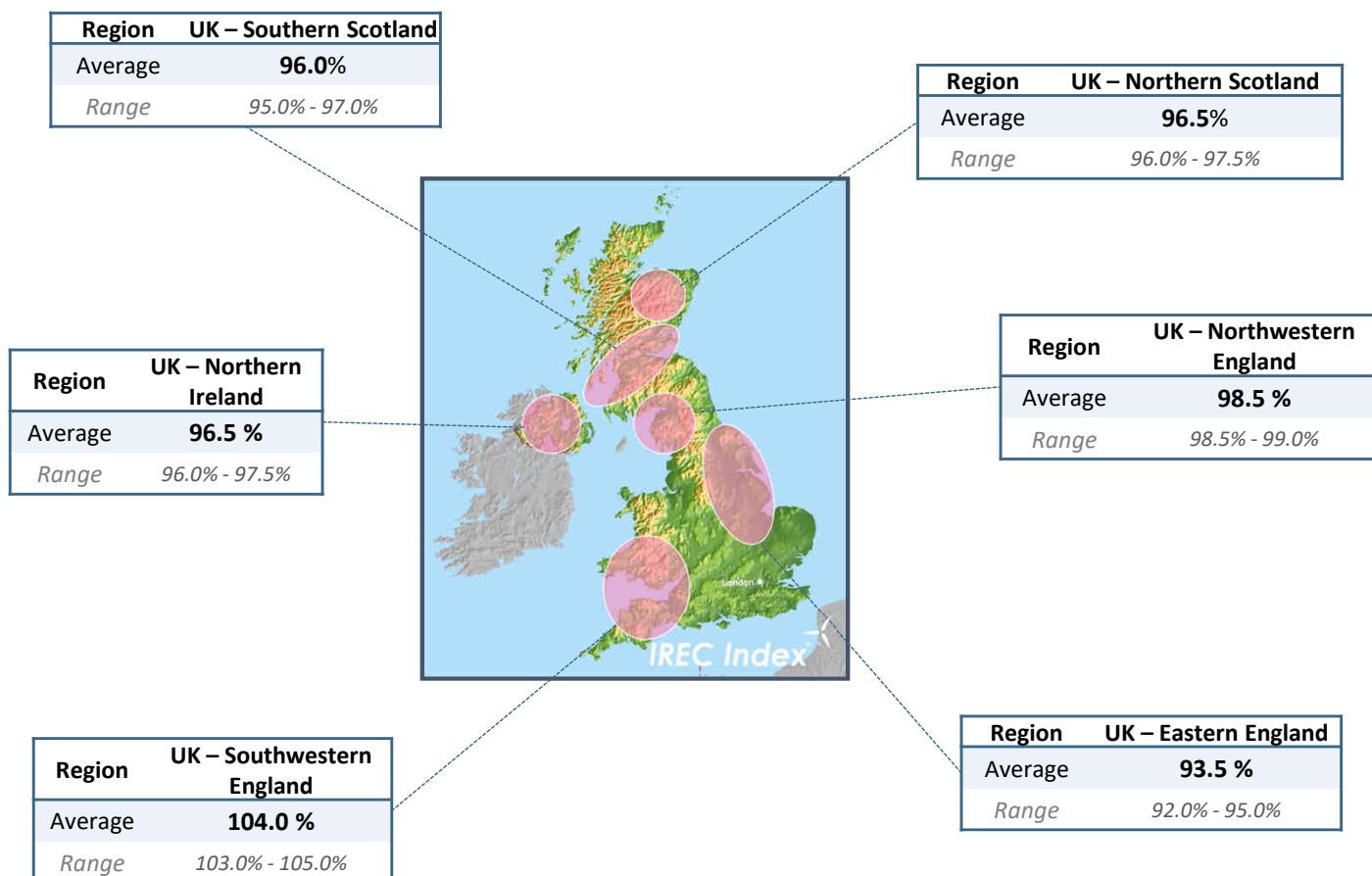
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IREC Index UK Annual wind energy index

Period : January – December 2019

Reference period: January – December 2009 - 2018



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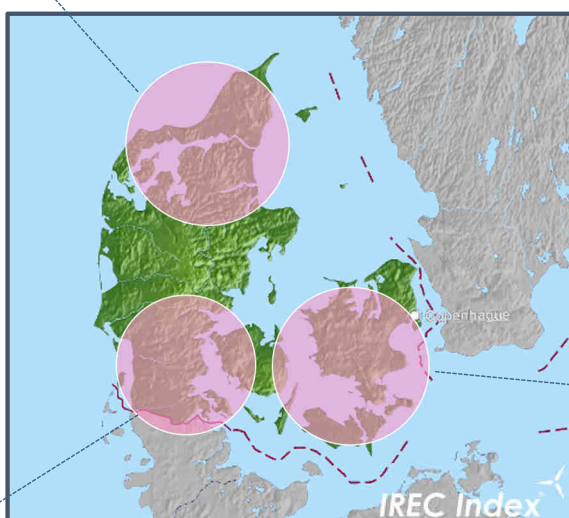
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IREC Index Denmark Annual wind energy index

Period : January – December 2019

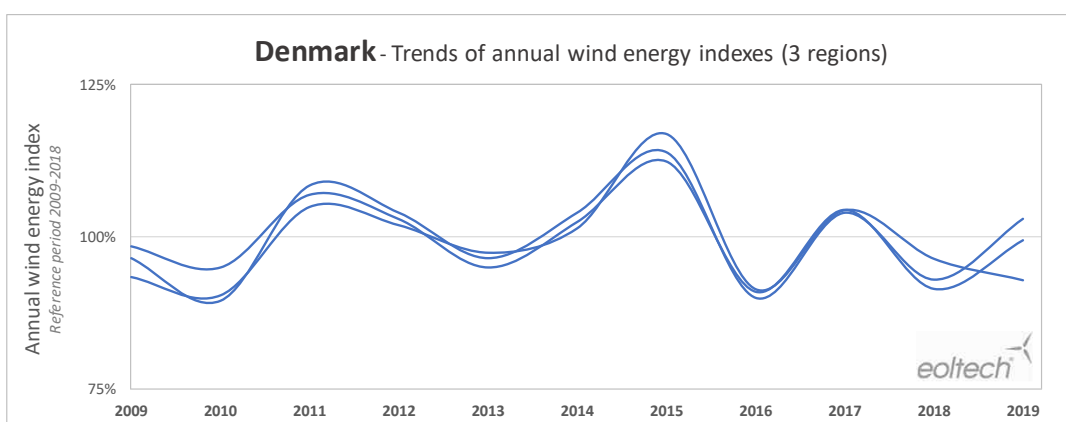
Reference period: January – December 2009 - 2018

Region	DK – Midtjylland
Average	93.0%
Range	91.5% - 94.5%



Region	DK – Sjælland
Average	99.5 %
Range	99.0% - 99.5%

Region	DK - Syddanmark
Average	103.0 %
Range	102.5% - 104.0%



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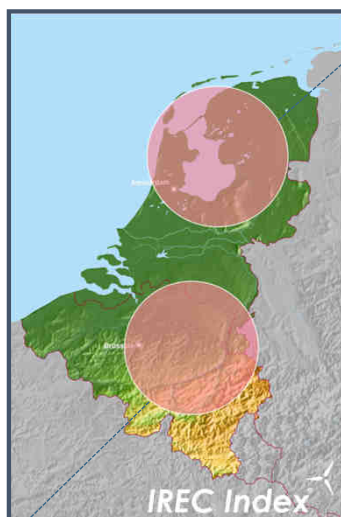
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IREC Index Benelux Annual wind energy index

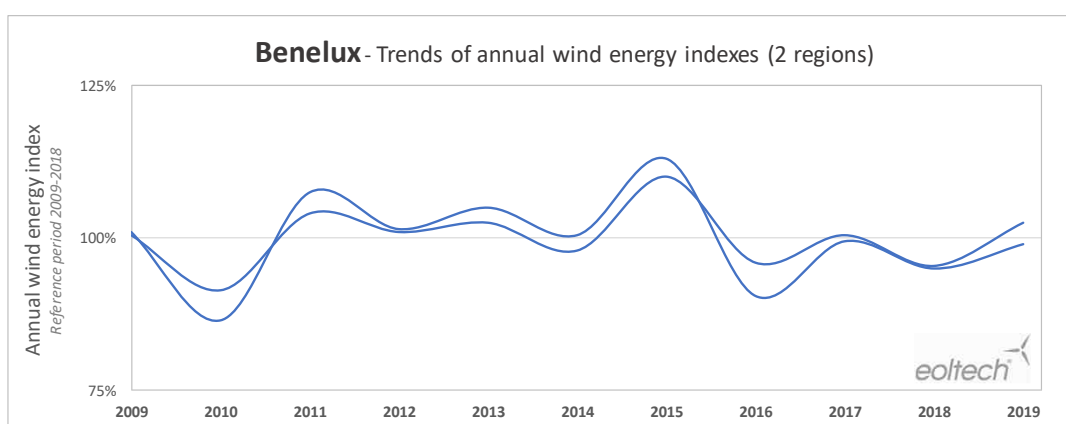
Period : January – December 2019

Reference period: January – December 2009 - 2018

Region	Netherlands
Average	99.0 %
Range	99.0% - 99.0%



Region	Belgium
Average	102.5 %
Range	102.0% - 103.0%



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