



TELESIS

- TELESIS is the game-changing technology that successfully acquires [with ZERO environmental impact] industrial volumes of water from the near off-shore subsurface.
- The water acquired is naturally and efficiently filtered and consequently chemicals-free and contains significant levels of latent energy.
- In capitalising on these natural advantages, we have the engine for a paradigm shift in resilient, affordable and sustainable downstream applications.
- TELESIS uniquely delivers multiple services and utilities in one integrated process.

The worsening availability of natural resources, the unpredictability caused by climate change, the conflicting and competing demands for 'green' solutions that should be sustainable, scalable and affordable so as to serve our expanding populations, all combine to create daunting and apparently unresolvable tasks.

The world is ready and urgently needs to take Nature-Based Solutions to scale.

The holistic and synergistic advantages of multi-utility **TELESIS** provides direct benefits to both people and nature. **TELESIS** significantly contributes to 11 of the UN's 17 SDG's as well as other food, water, energy nexus global challenges.

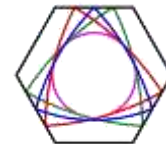
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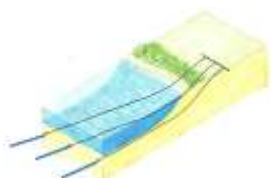


TELESIS, nature's future proof supply of water & energy.

We transform the socio-economic well-being of coastal communities, home to over 60% of the planet's population (70% by 2025) with a commercial business that saves the environment.

The platform for everything we do utilises water that is acquired via our 'next generation', innovative subsurface abstraction technology. The water we acquire with ZERO environmental impact, is naturally and efficiently filtered, is chemicals-free (Biocides are redundant as bio-fouling is simply not possible) and is at a year-round constant temperature.

These properties serve as the engine for many advantageous green, nature-based applications.



The ultimate slow-sand filter, perpetually maintained by the dynamic actions of waves, tides, currents and storms; **TELESIS** will provide 16 – 160,000m³/day of naturally pre-treated subsurface water that contains significant levels of intrinsic latent energy.

By simply and successfully changing the feed-source to sub-surface water, we are able to radically transform the downstream services

Reliability
- **TELESIS** is impervious to all shut-down events

Sustainability
- Utilising a virtually inexhaustible resource in environmentally benign, chemicals-free, low-to-zero CO₂ processes.

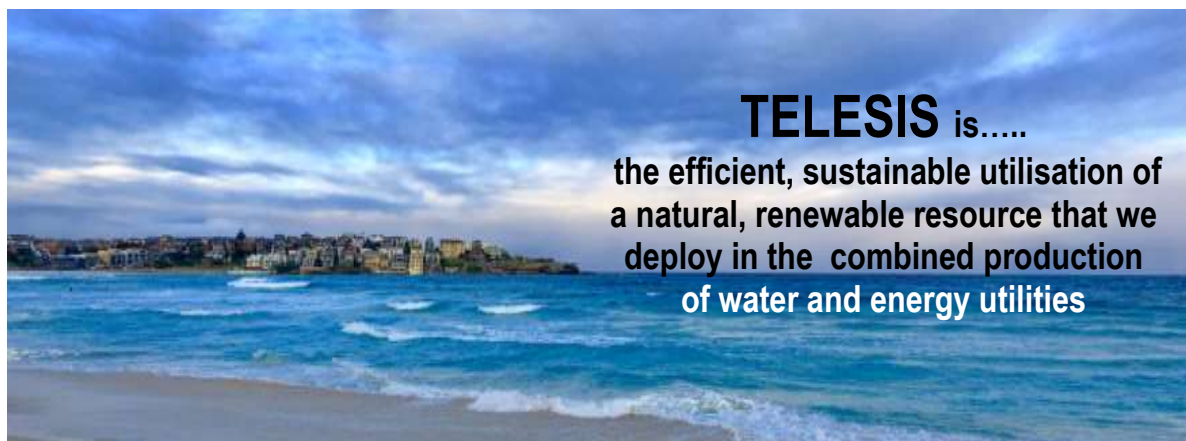
Affordability
- An unparalleled business model is created by capitalising on the advantage of simultaneous utility production, i.e. Heating, Cooling, Desalination and Mineral Recovery [ZLD] all using the same engine; **TELESIS** subsurface water.



Water quality comparisons

NTU: Nephelometric Turbidity Units
TSS: Total Suspended Solids

	TELESIS	Open-intake
Bacteria Coliforms	0.1	30 - 35
Turbidity (NTU)	1.5	6
TSS	5	40
Temperature	Constant, year-round, 24/7	Diurnal & seasonal variation



Although **TELESIS** is limited to coastal applications, this will be home by 2025 to almost 70% of the planet's population. 4 of the world's 5-largest Mega cities, in common with most of the largest cities, are located on the coast and are sinking due to over-abstraction of groundwater. **TELESIS** will facilitate utility production within the heart of coastal communities, discretely and unobtrusively, obviating the reliance on groundwater. This is possible because a) **TELESIS** is invisible (below ground) and b) the spatial requirements of **TELESIS** plant are half that of standard operations and can be easily and discretely accommodated within Basement areas.

**Significantly contributing to 11 the 17 UN Sustainable Development Goal
Facilities and utilities served and transformed by TELESIS.**



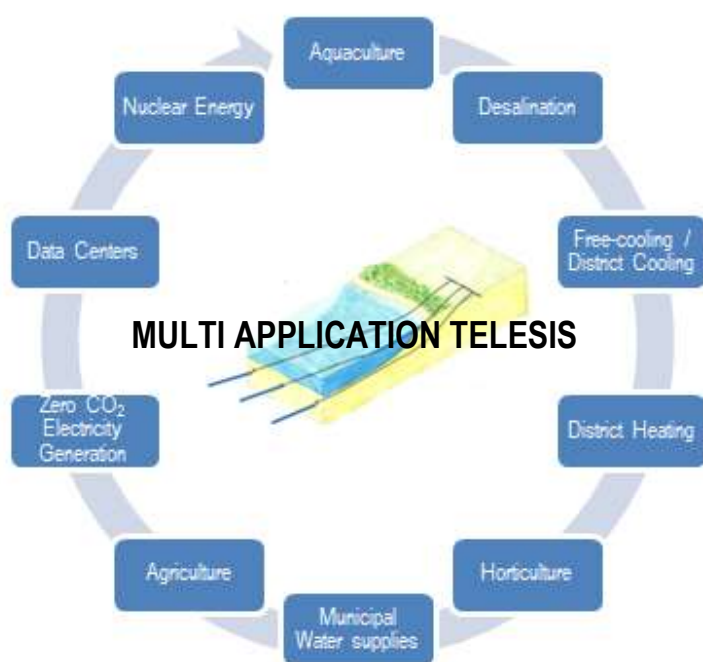
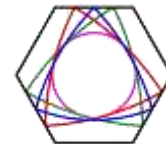
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1. Aquaculture

We simplify and de-risk Aquaculture fish farming procedures and significantly reduce the prospect (and disastrous consequence) of disease.

2. Desalination (and mineral recovery)

Desalination is unaffordable, destructive, discredited. **TELESIS** resolves and reverses each of these problems with game-changing process transformation, reducing production costs $\geq 50\%$.

3. Free-cooling, District cooling

TELESIS renders cooling towers redundant as this water is hotter than **TELESIS** cooling water. Consequently, we enjoy 60% Opex reduction, Capex reduction of 30% - 85% in Northern Latitudes when integrated with a Heat Pump application as Chillers are then also unnecessary / redundant.

4. District Heating

TELESIS subsurface water is a high-quality heat sink source for Heat Pump applications which facilitates a $COP \geq 5$.

5. Horticulture

This holistic, synergistic **TELESIS** process free-cools the greenhouse interior, provides ultra-low cost irrigation water plus natural fertilizers and reduces produce storage costs and consequently contributes towards food waste prevention.

6. Municipal water supplies

Many of our Lakes and Rivers are severely polluted or suffer periodic issues that interrupt municipal supplies. **TELESIS** acquires water, effectively from the same source but as our abstraction method is impervious to close-down events, we accomplish **security of municipal supplies**.

7. Agriculture

Produced water is too expensive to serve all of Agriculture's needs. However, a supply which serves as the security against crop loss in the face of unpredictable but evermore frequent and extended droughts, provides the level of risk mitigation that could make the difference between investing in this critically required food production process, or not. It might also bring marginal land back to arable production. **FILLING THE GAP** between "rain-fed agriculture" and the irrigation water quantity so as to de-risk Agriculture and contribute to **accomplishing Food security**.

8. Zero CO₂ Electricity Generation

There is a current and marked growing preference for decentralised, off-grid utility generation. **TELESIS** can serve as the crucially important cold-sink in thermodynamic processes (e.g. Thermal Generators) which can provide the electricity to deliver other **TELESIS** utilities, e.g. cooling or desalination. This holistic, synergistic process provides **NET ZERO CO₂** socio-economic security and growth for coastal communities, home to over 60% of the planet's population - 70% by 2025.

9. Data Centers

As data centre productivity increases in magnitude of order, so too does the internal heat gains. **In an age of water poverty**, this heat load increase coincides with increasingly discussed and criticised awareness of the vast volumes of **water lost** while cooling Data Centers.

As referenced above, **TELESIS** does not use cooling Towers and, therefore, there can be no water loss. Furthermore, we can 'Free-cool' data centres and this combined with low cost water production transforms a process that is presently consuming millions of m³/day into a **holistic, synergistic net water provider**.

10. Nuclear energy

TELESIS simply improves both the resiliency (safety) and the efficiency (~5%) of Nuclear Power generation.

