What is Small Scale DAB?

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Topics

About DAB Italia

1. What are Small Scale Solutions?
2. What are the reasons (also from a historic point of view) to adopt Small Scale Solutions?
3. Additional aspects of Small Scale Solutions

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What are the reasons for adopting Small Scale Solutions

- Fear of the “high” costs of DAB in comparison to FM (pride&prejudice)
- High costs by incumbent operators and solution providers
- Type of licence awarded by regulator – spectrum limitations
- Capability to manage the IT and IP environment needed to roll out SSS
- Keep (small) local radio on air in a local area
- Increase local radio offer
- Offer more free content!

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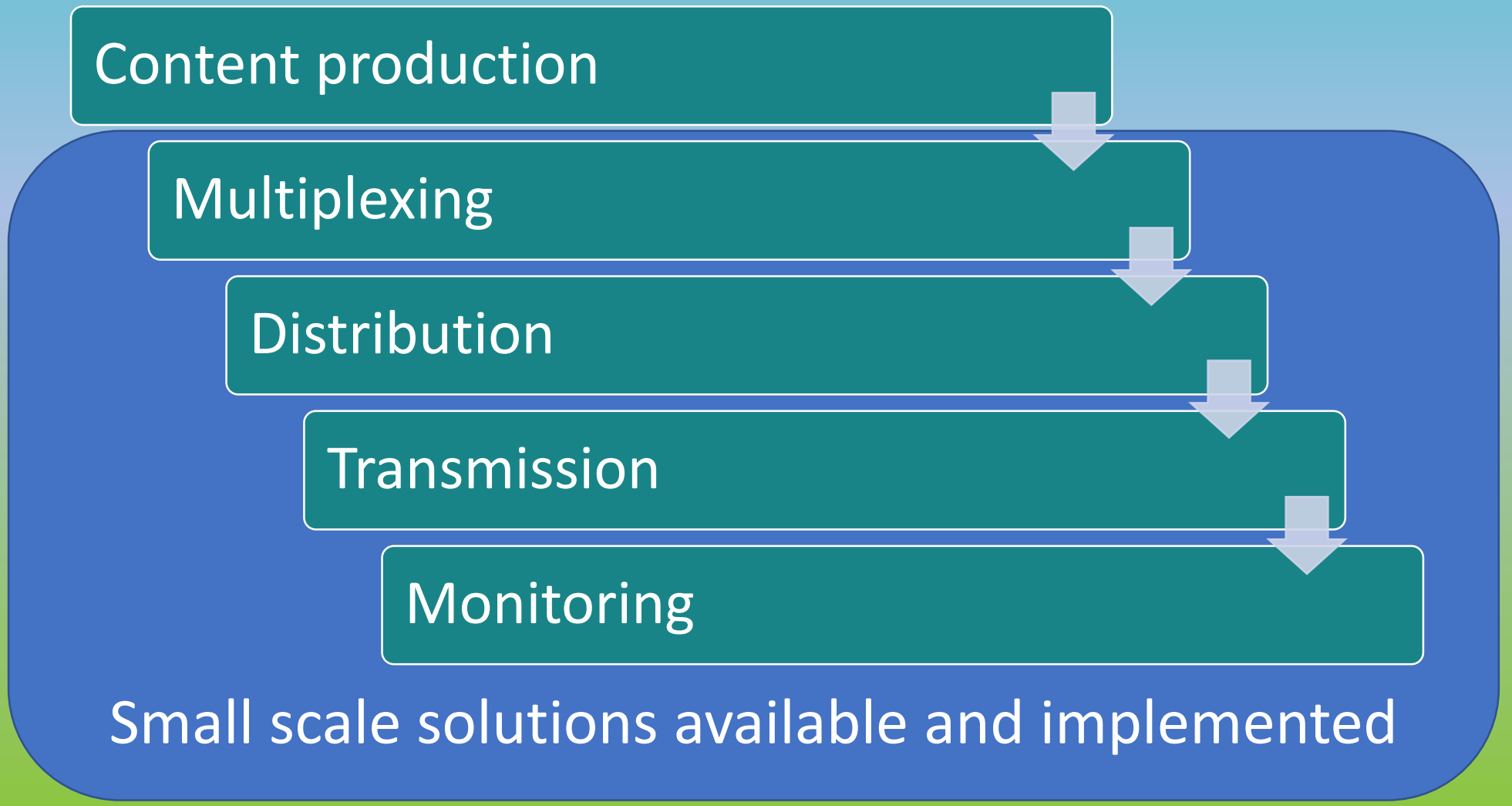
What are small scale solutions?



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What are small scale solutions?

- Multiplexing
  - ODR MMB tools – free
    - No commercial support
    - Need of adaptation, programming and planning skills (manpower is not free)
  - Commercial solutions based on ODR MMB tools
    - Quicker to implement
    - Commercial solutions have support, additional functionalities and some associated costs
  - Simple implementations of commercial solutions
    - Easier to implement (external support, experienced solution providers)
    - Can have support, complete functionalities and a higher cost

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What are small scale solutions?

- Distribution
  - Mux @ transmission site
    - No distribution cost BUT need for audio and data feeds to be provided

  - IP distribution
    - Can use custom built networks, radio links, commercial IP connectivity (with varying costs)
    - Needs some setup and maintenance work
    - Limitations by low cost commercial solutions (bandwidth limitations, reliability by hardware and connectivity)

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What are small scale solutions?

- Transmission
  - Transmitters
    - The most expensive part of DAB transmitters is generally speaking the modulator
    - Low cost solutions exist and are being developed further
    - When ramping up requirements (power, MER, efficiency, control, maintenance) often cost trends towards commercial products
  - Sites
    - Telco solutions are generally speaking expensive
    - For local coverages alternative sites can be found (high rise buildings, new small tx towers, water towers)
  - Antennas
    - Usually using commercial products or already existing band III systems (both operated by other DAB broadcasters (sharing) or leftovers from TV broadcasting)
  - Installation
    - DIY!

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What are small scale solutions?

- Monitoring
  - RF monitoring solutions can use SDR receivers
  - Some promising SW solutions for reception with interesting functionalities
  - No fully reliable solution which can be integrated into a monitoring system is currently available – a lot of SW development is needed

Takeaway Number 1:

When adopting Small Scale Solutions it is mandatory to be really good at IT and IP!

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2 – What are the reasons for adopting Small Scale Solutions

- From a technical point of view – looking mainly at multiplexing and distribution
  - ODR is much easier to roll out today than in the beginning
  - Flexible and cost efficient
  - Low initial cost
  - Software based -> hardware independent and “future proof”
  - Much better IT options today
  - Much better IP options, too!

Takeaway Number 2:

Small Scale Solutions can be a flexible and futureproof solution for multiplexing

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3. Additional aspects of Small Scale Solutions

- There are scenarios where (traditional) Network Operators might want to adopt Small Scale Solutions
  - As backup to existing systems
  - As an highly customisable extension of services and functionalities
  - As a way to reduce costs for new customers
  - To improve and extend coverage in specific areas
    - Local areas with the need of additional small transmitters
    - Highway and tunnel coverage

Takeaway Number 3:

Small Scale Solutions are for all operators

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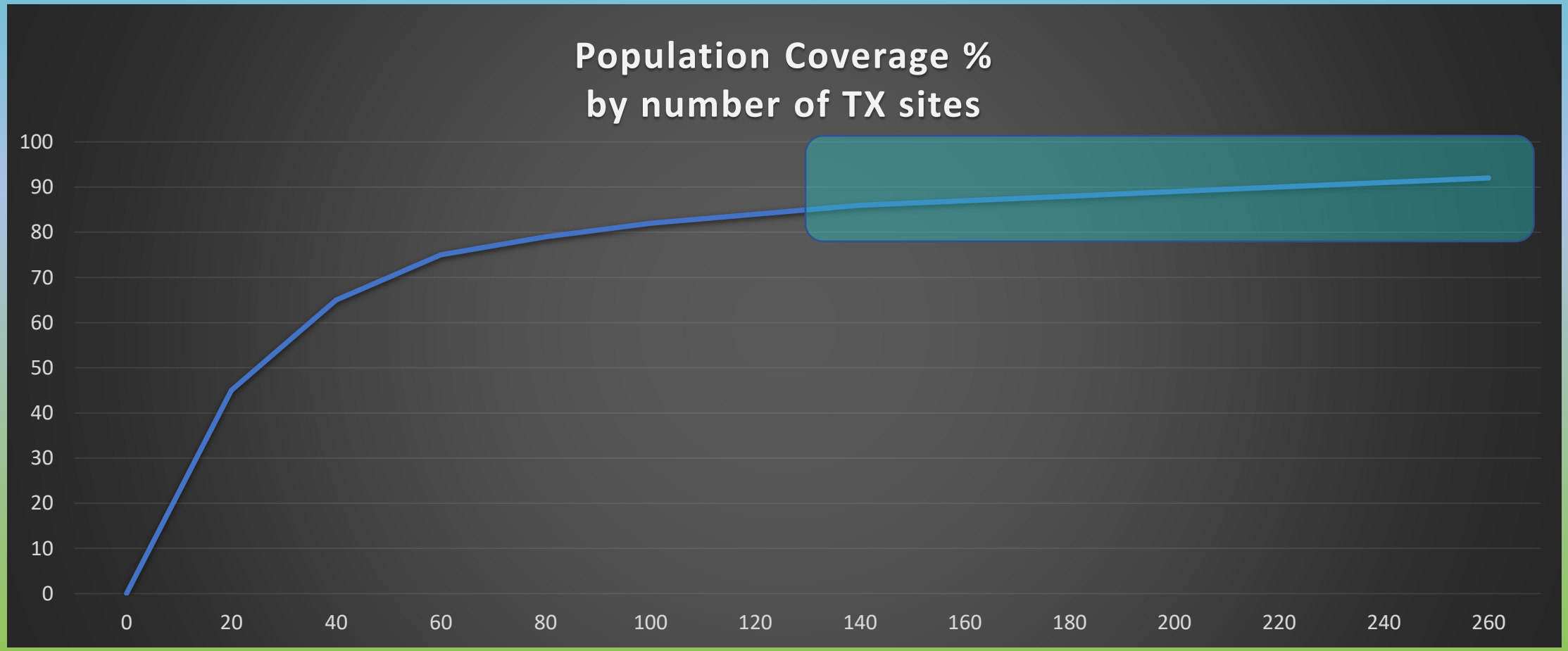
Example: coverage extension – with “gap fillers”



Final considerations:
(Small Scale does not mean free, but…)

- Small Scale allows lower entrance costs
- Small Scale for Multiplexing and Distribution requires some skills
- Small Scale for Antennas…
- Small scale for transmission equipment is generally speaking limited to low power implementations

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Thank you very much!

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