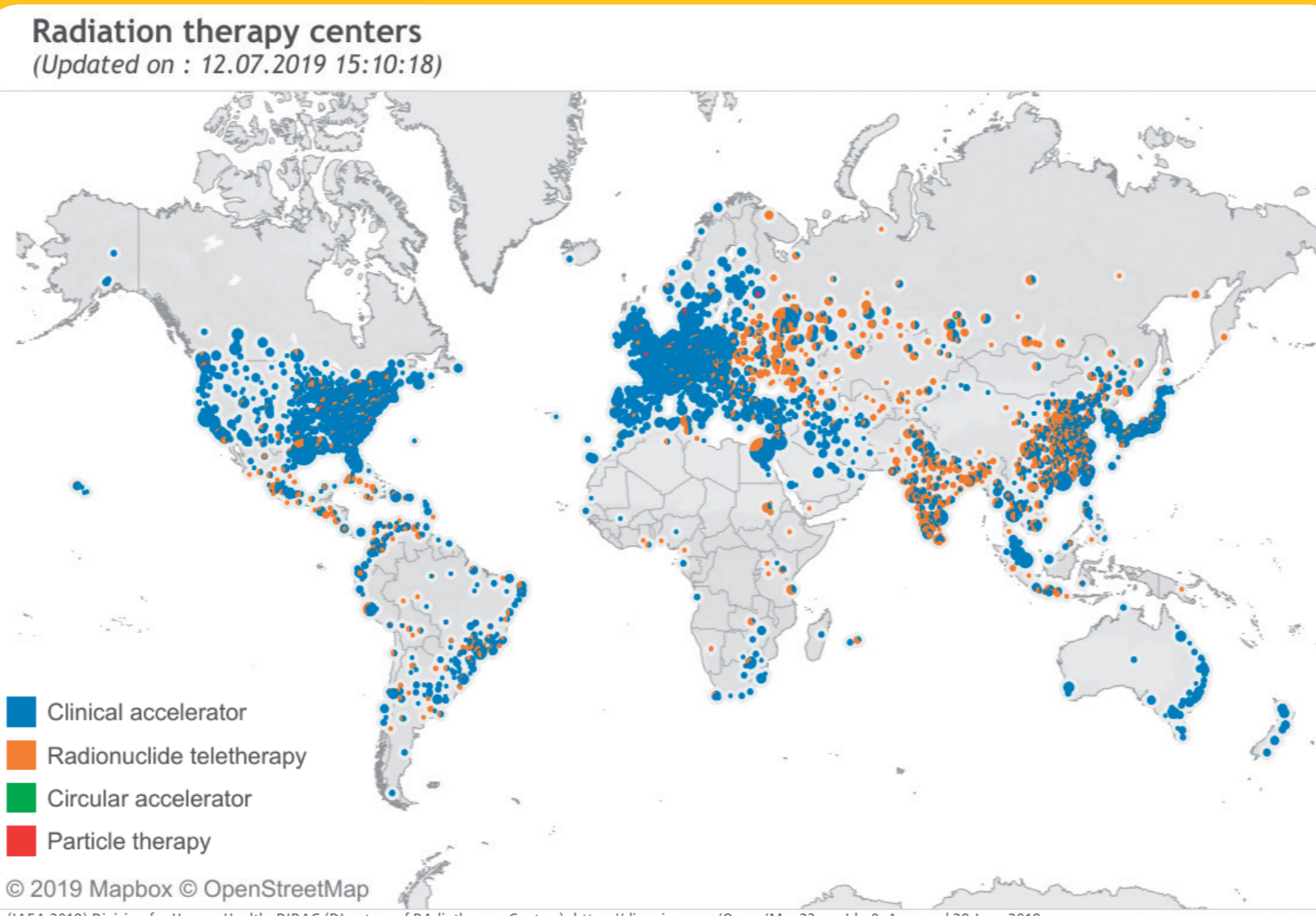


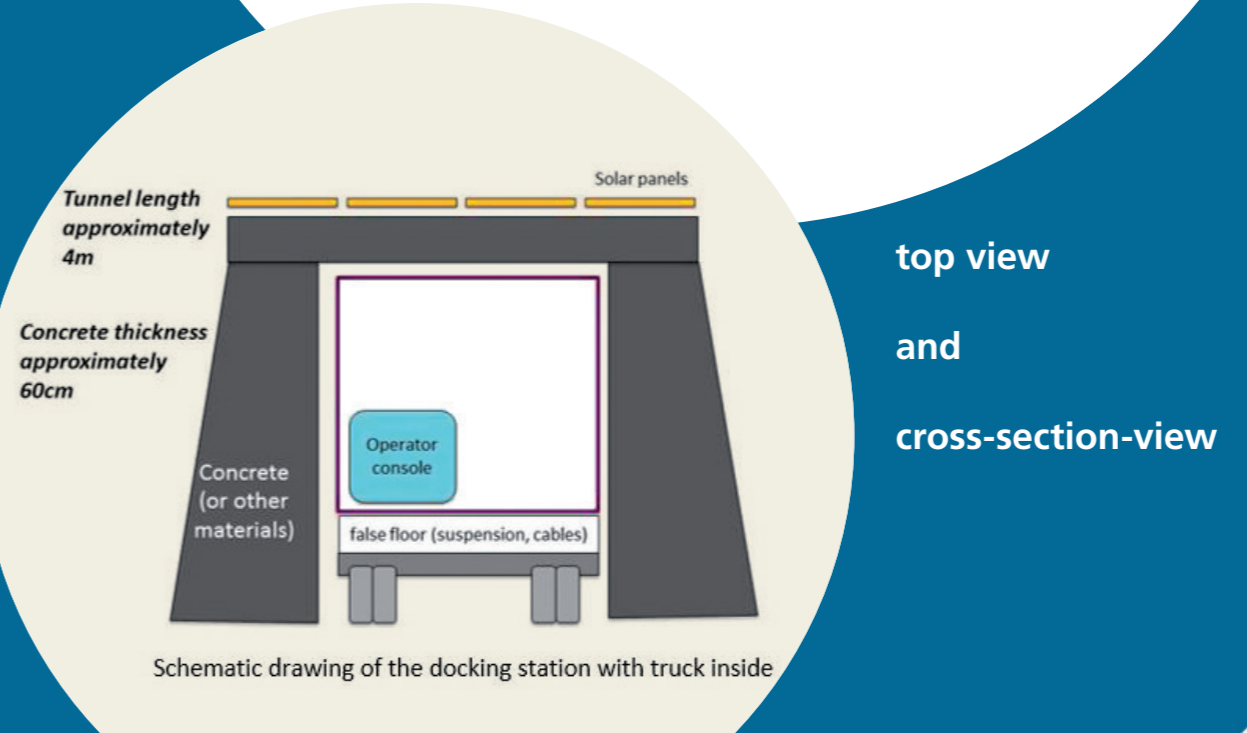
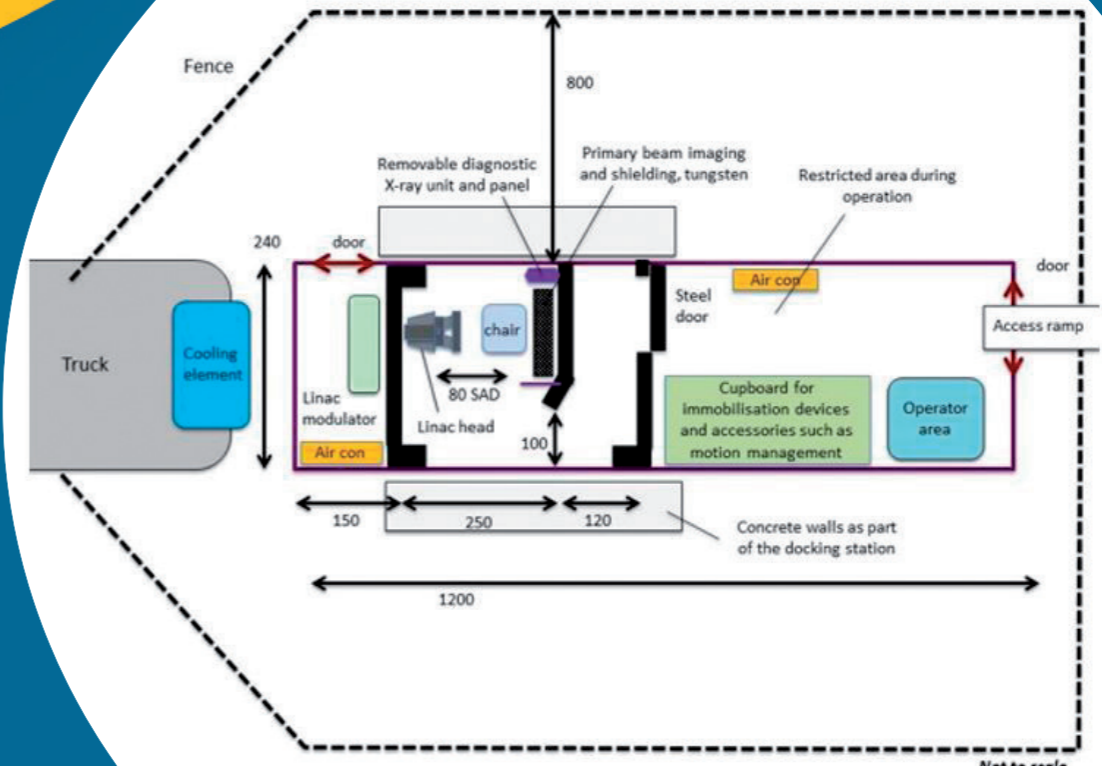
# Solar powered radiotherapy 4.0

## Taking Cure to the Country

# Radiotherapy On a Truck



Radiation therapy is a cornerstone of cancer treatment. Currently, 50% of patients require radiation therapy at some stage in their cancer trajectory. However, unlike surgery and chemotherapy, radiation therapy is typically limited to large population centres because of the size and cost of the equipment required for treatment. This limitation is particularly problematic for large countries like Australia where regional and rural patients often miss out on critical care (see for example: AIHW 2016. Australia's health 2016. Australia's health no. 15. Cat. no. AUS 199. Canberra: AIHW and National Strategic Framework for Rural and Remote Health (2016) <http://www.health.gov.au/internet/main/publishing.nsf/Content/national-strategic-framework-rural-remote-health>).

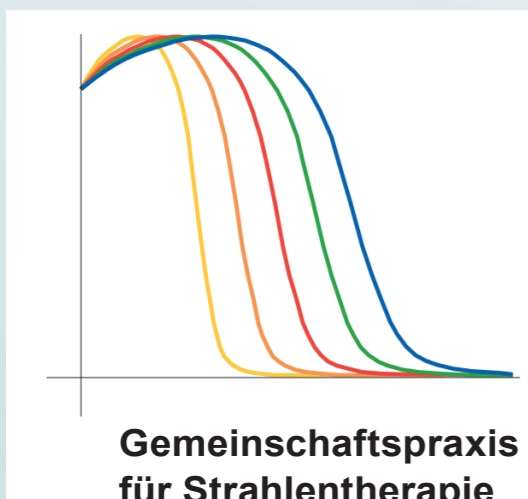


Advantages of robust mobile radiotherapy systems in a container (to be placed on a truck, boat, transported by helicopter):

- 1 It can be deployed to smaller and remote communities where the establishment of a complete radiotherapy centre would not be economically viable.
- 2 It can be deployed in crisis areas and refugee camps where permanent structures are either not possible or not allowed.
- 3 Maintenance and calibration for mobile systems could be done at a base station that is visited regularly.
- 4 Solar power could be utilised because many of the target regions are in countries with abundant sun exposure (Wirtz 2017) SOLAR-POWERED RADIOTHERAPY 4.0 - OPPORTUNITY FOR RADIOONCOLOGY IN AFRICA, Poster at AORTIC 2017.
- 5 Most treatment planning, quality assurance and workflow management can be performed remotely using a computer cloud or base hospital where expertise is available. Connectivity e.g. with mobile networks or satellite are a prerequisite for the mobile radiotherapy center.



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RECOMMENDED LITERATURE  
(July 2020): The Modern Technology of Radiation Oncology, Editor: Jacob Van Dyk

### INVENTION PARTNERS

CONCEPT DESIGN      POWER      COMMERCIAL SOLUTION

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Director of Physical Sciences

**Peter Mac**  
Peter MacCallum Cancer Foundation

**TESVOLT**  
THE ENERGY STORAGE EXPERTS

+? +? +?

RECOMMENDED LITERATURE (WHO 2019) Cancer: Key facts <https://www.who.int/news-room/fact-sheets/detail/cancer>. Accessed 29 June 2019 & (GCO 2019) Global Cancer Observatory. <https://gco.iarc.fr/>. Accessed 29 June 2019 & (Atum et al. 2015) Expanding global access to radiotherapy. The Lancet Oncology Vol. 16:1153-1186 (Müller-Polyzy et al. 2019) & Digitalisierung in der Strahlentherapie 4.0: Chancen und Möglichkeiten der digitalen Strahlentherapie. In: Krämer N, Stoffers C (eds) & Digitale Transformation im Krankenhaus: Thesen, Potenziale, Anwendungen, 1. Auflage. Mediengruppe Oberfranken, Kulmbach, pp 191-214