

# High Capacity Wireless CT Data Link



## Company background

“Analogic creates innovative technology that improves the practice of medicine and saves lives.

“For over 40 years Analogic has created markets by anticipating and solving some of the world’s most complex medical and engineering challenges. Today, our specific areas of expertise include developing enabling technologies used in computed tomography (CT), ultrasound, digital mammography (DM), and magnetic resonance imaging (MRI). We also develop state-of-the-art threat detection systems for airport checked-baggage screening as well as motion controls.” - Analogic Website

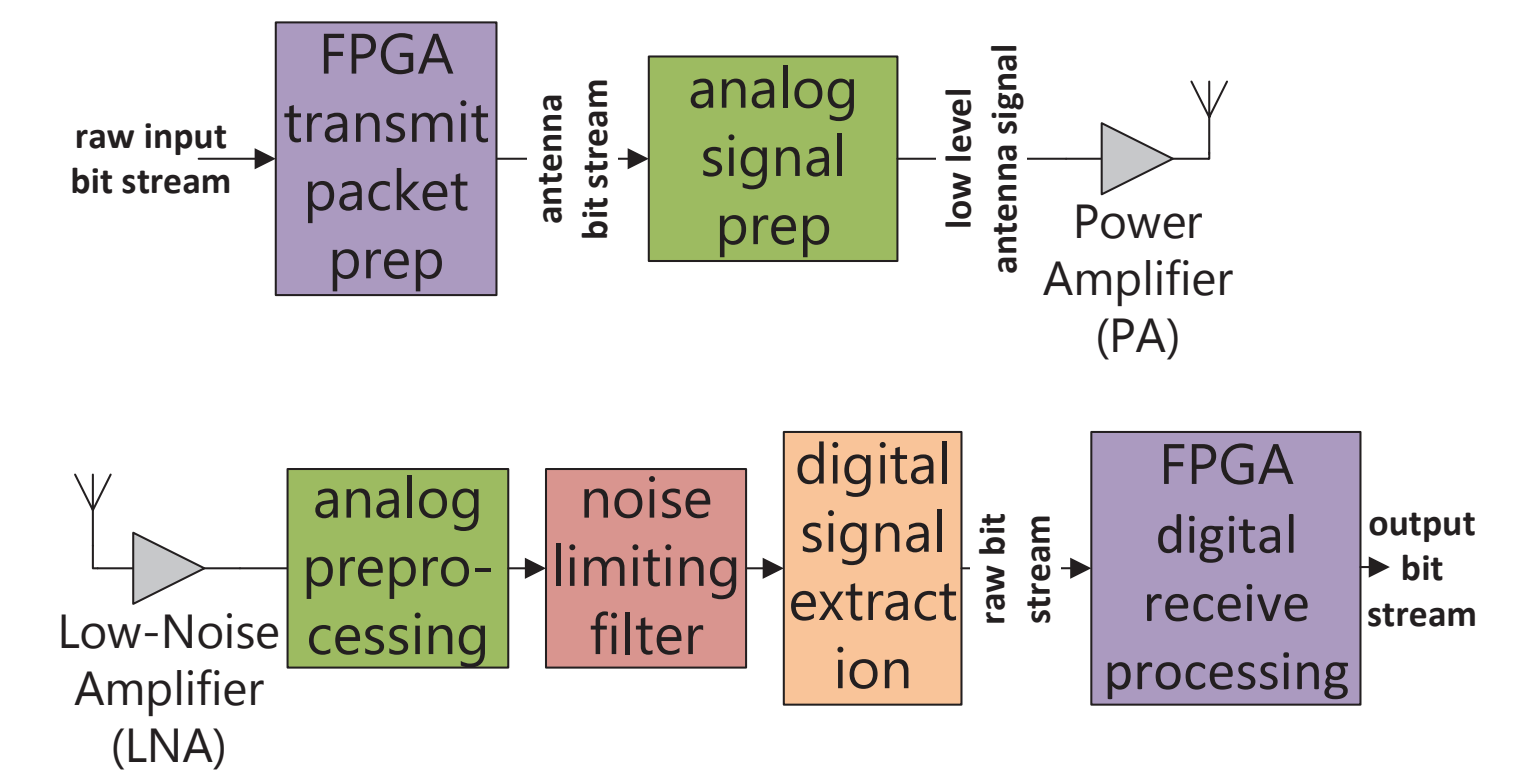
## Why?

Innovation in CT scanners lies in improving the quality of the images and decreasing scan times; thus as the number of elements in 2-D CT detector arrays and rotation speed both increase newer scanners will produce more data at higher rates, and demand a higher throughput on the wireless data link.

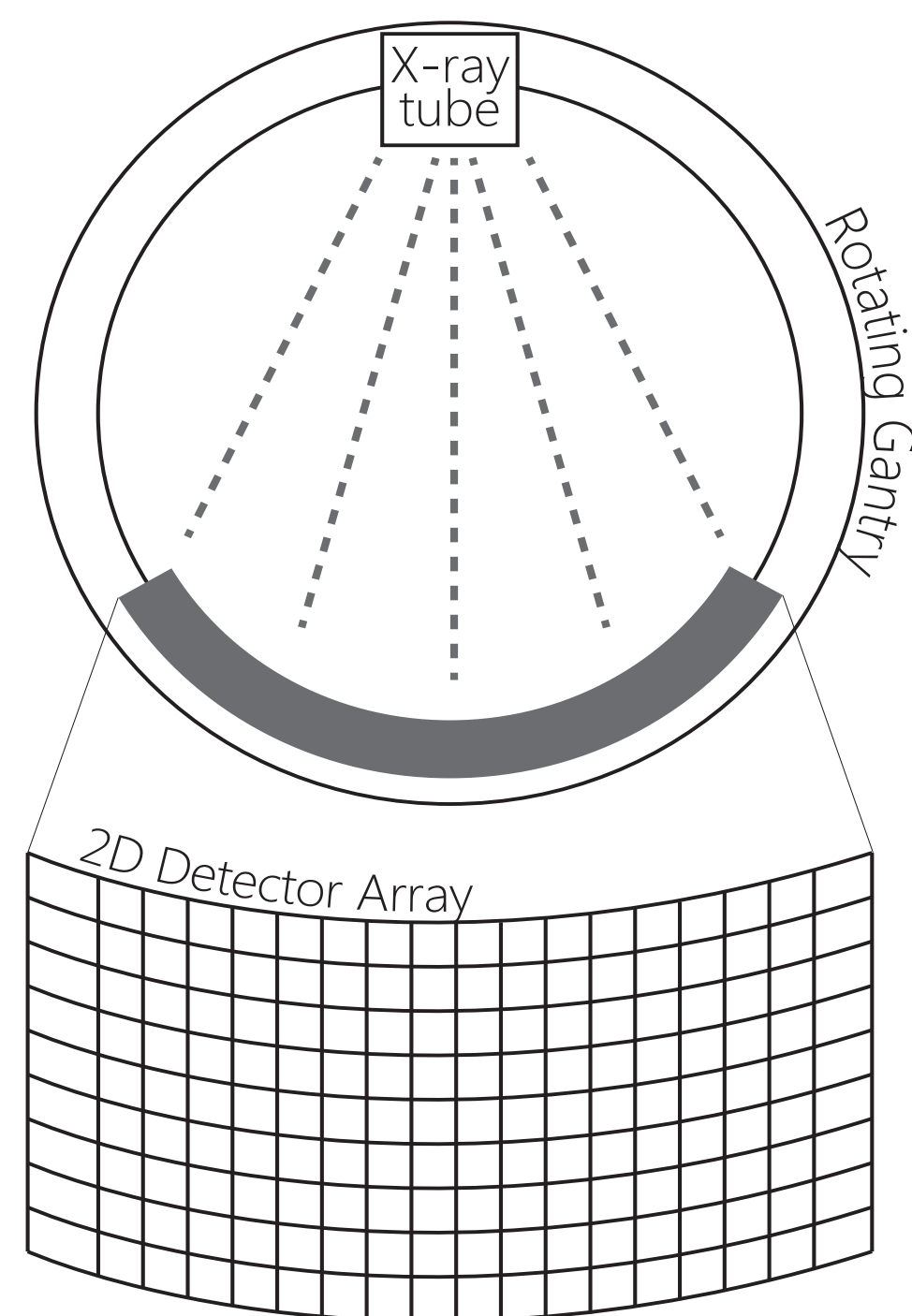
SCOPE 2012-13 

Analogic’s current implementation provides a link with approximately 1.2 Gbps capability, and has limited scalability to significantly higher data transfer rates.

## SCOPE team’s solution

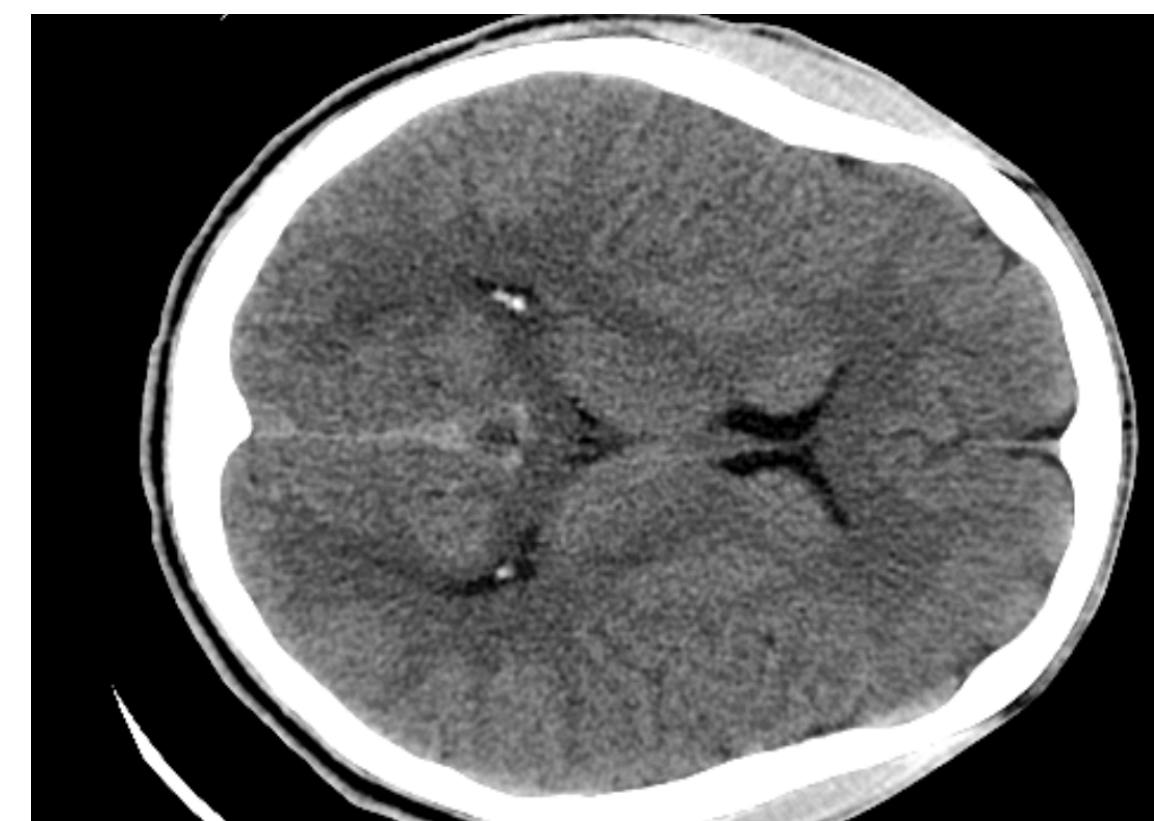


The solution proposed by the Analogic SCOPE team takes better advantage of the properties of the available wireless link to obtain a significant increase in data capacity. This approach can be the basis for meeting the expected increase in data transfer requirements for future products.

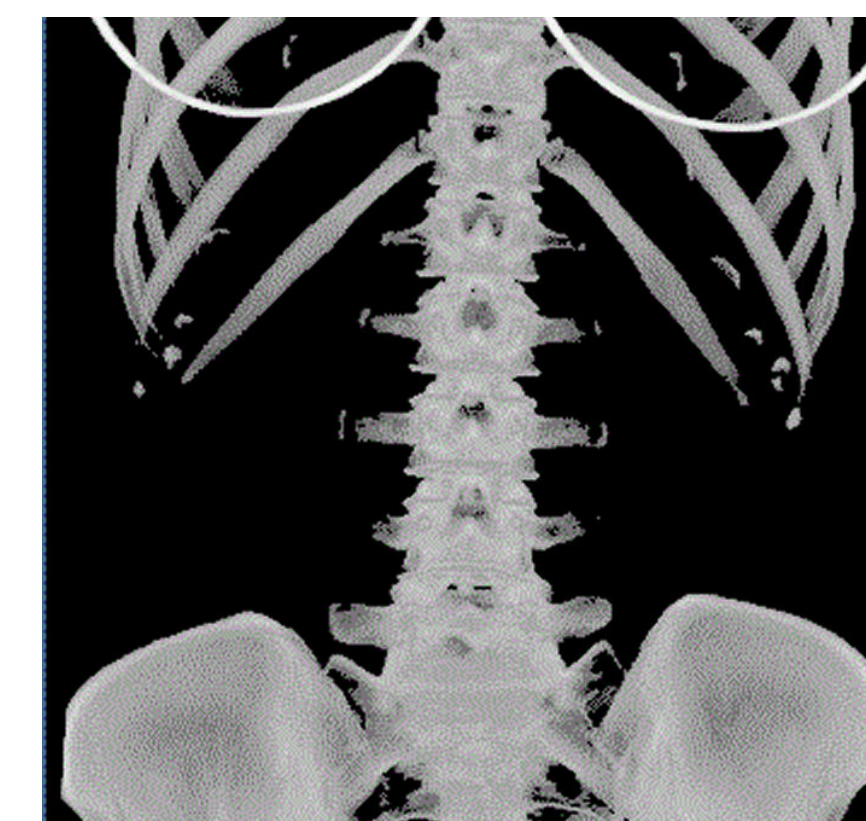


**Goal:**  
To Increase Data Rate

*Sketch of a CT scanner rotating gantry, illustrating the 2D detector array.*



2D CT Scan



3D CT Scan

CT Scans are customarily 2D; modern CT scanners are able to gather enough data to reconstruct a 3D image of the patient.

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Analogic SCOPE Team 2012-2013