

# InnospeXion

Novel methods for fish bone detection

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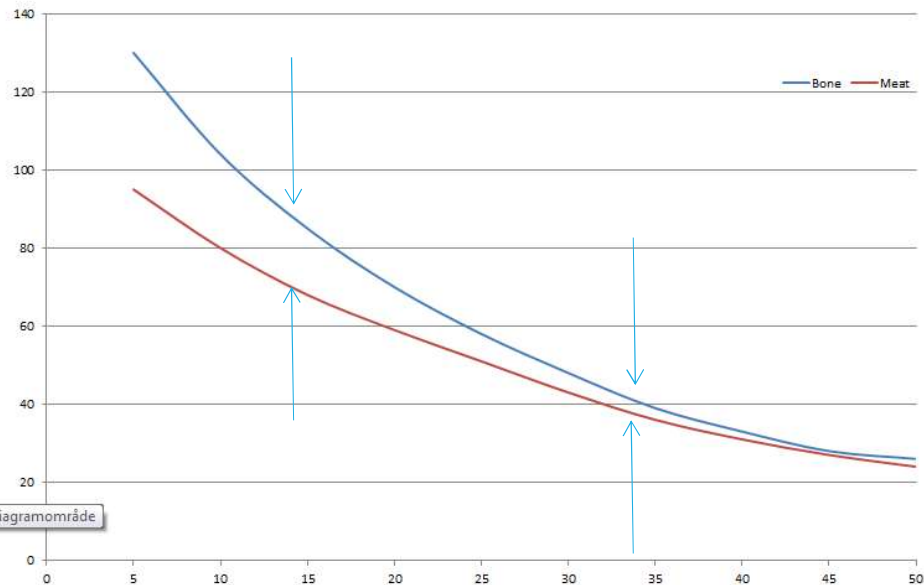
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# Why is the IX technology better?



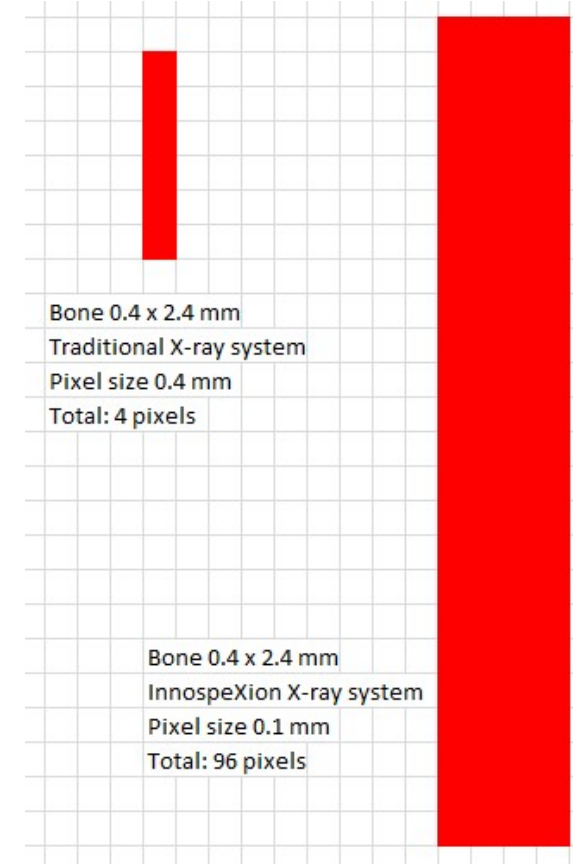
The X-ray attenuation of materials depends e.g. on the atomic composition. The difference between e.g. meat and bone is exponential. At low X-ray energy, the differences are very pronounced (i.e. curve distance at the leftmost arrows, cp. To the small contrast at the rightmost arrows). Imaging at low energy therefore gives a much higher contrast and thus greatly improves the detection capability

In the case that each pixel is sufficiently sensitive so the signal greatly exceed the noise level, **small pixels enables a much better definition.**

This is especially important for fish bones, since critical bones may be as small as 0.35 mm

To the right is compared the size in the X-ray image of a 0.4 x 2.4 mm bone imaged using standard technology (6 (not 4!) pixels), compared to IX technology (96 pixels).

Obviously, automatic detection by software is much easier when 96 pixels make up a bone cp. To 6!

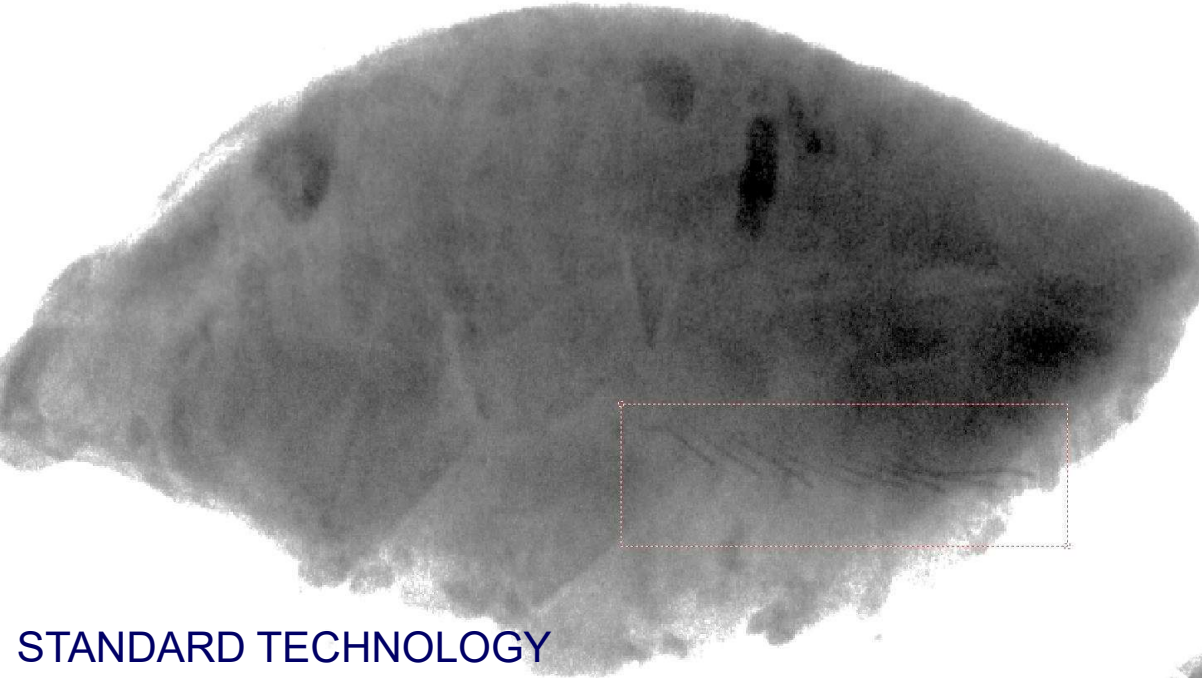


# Integration of the technology – Hymcis systems

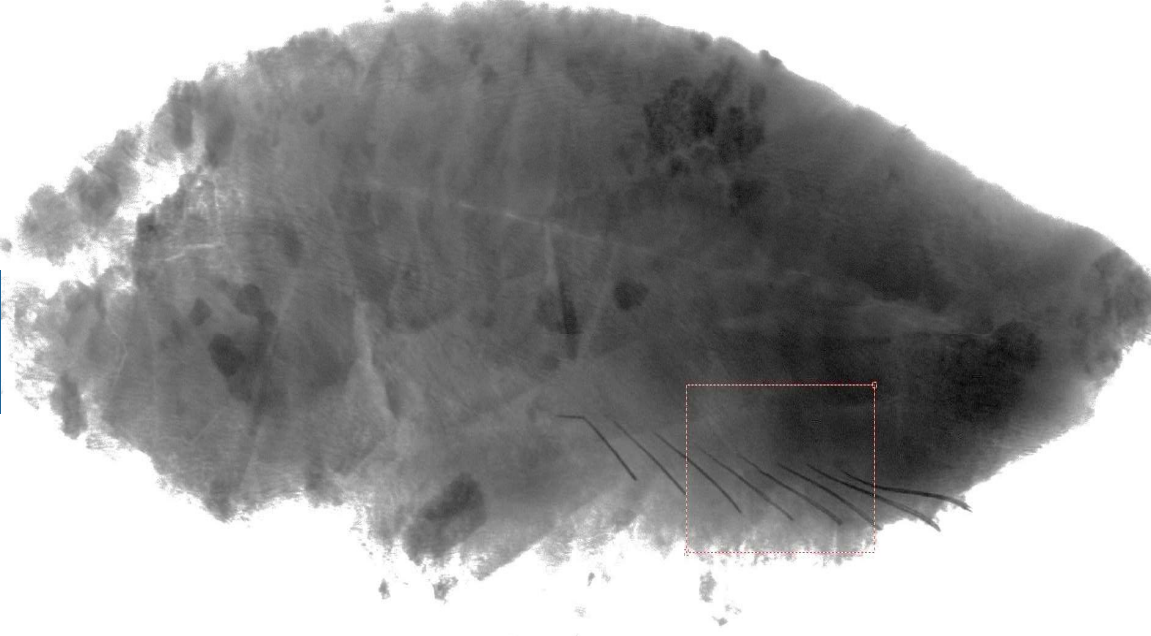


- Used for a variety of applications: packaging integrity (seal), bone detection, quality conformity, in dry and wet areas
- Unique technology using **low-energy** x-rays
- Hygienic design (wet areas)
- 0.1 x 0.1 mm resolution
- Tailored to the customer
- System capacity: Runs up to 27 m/min or 120-150 fillets/min (up to 150 samples/min)
- PLC-based system control
- Short pay back time

IMAGE CONTRAST AND RESOLUTION  
DIFFERENCES RELATIVE TO STANDARD  
TECHNOLOGY – COMPARISON OF A FISH FILLET  
IMAGED ON STD AND LOW-E X-RAY SYSTEMS



LOW ENERGY TECHNOLOGY



STANDARD TECHNOLOGY

The image quality says it all