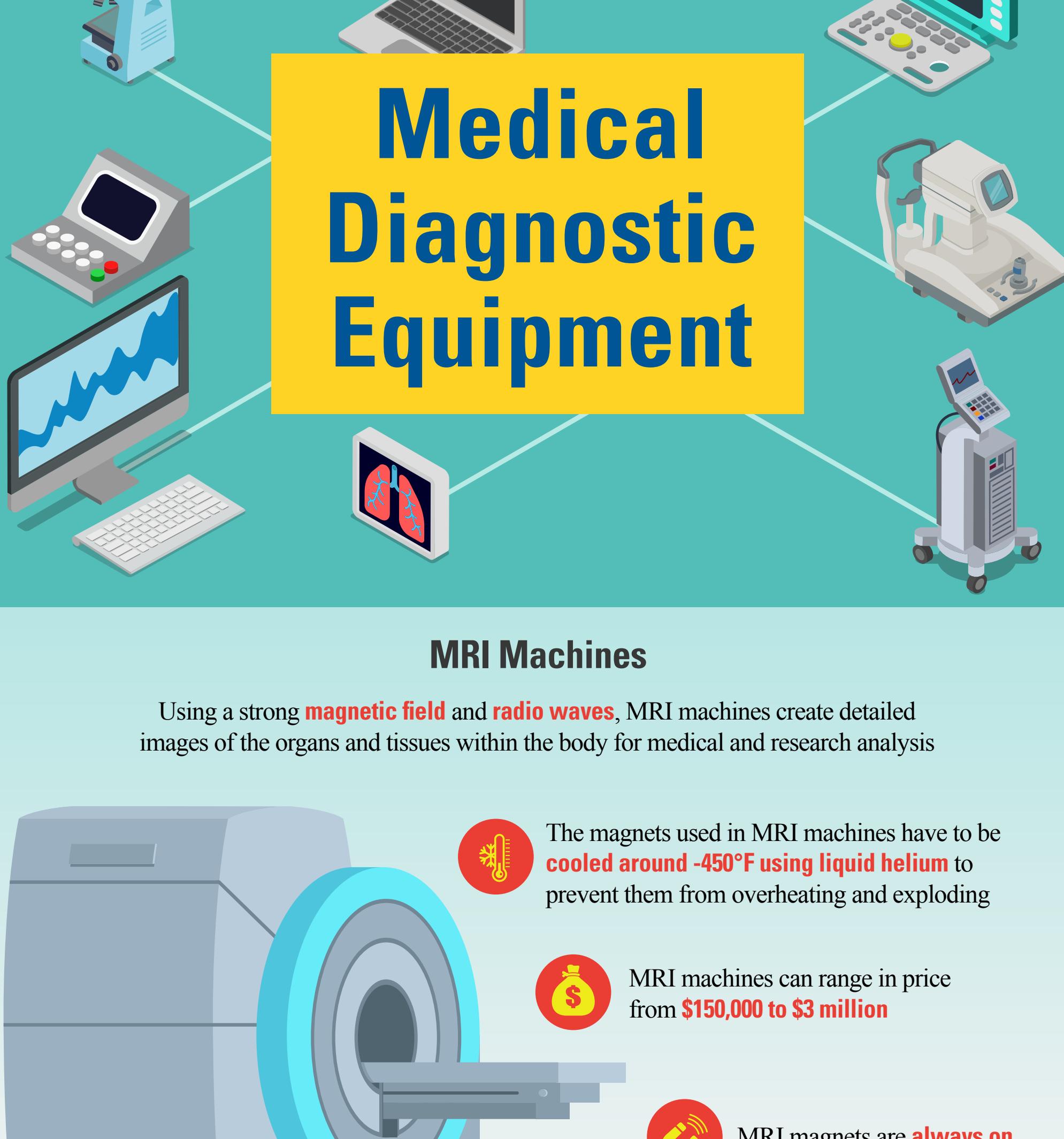


Risky Business

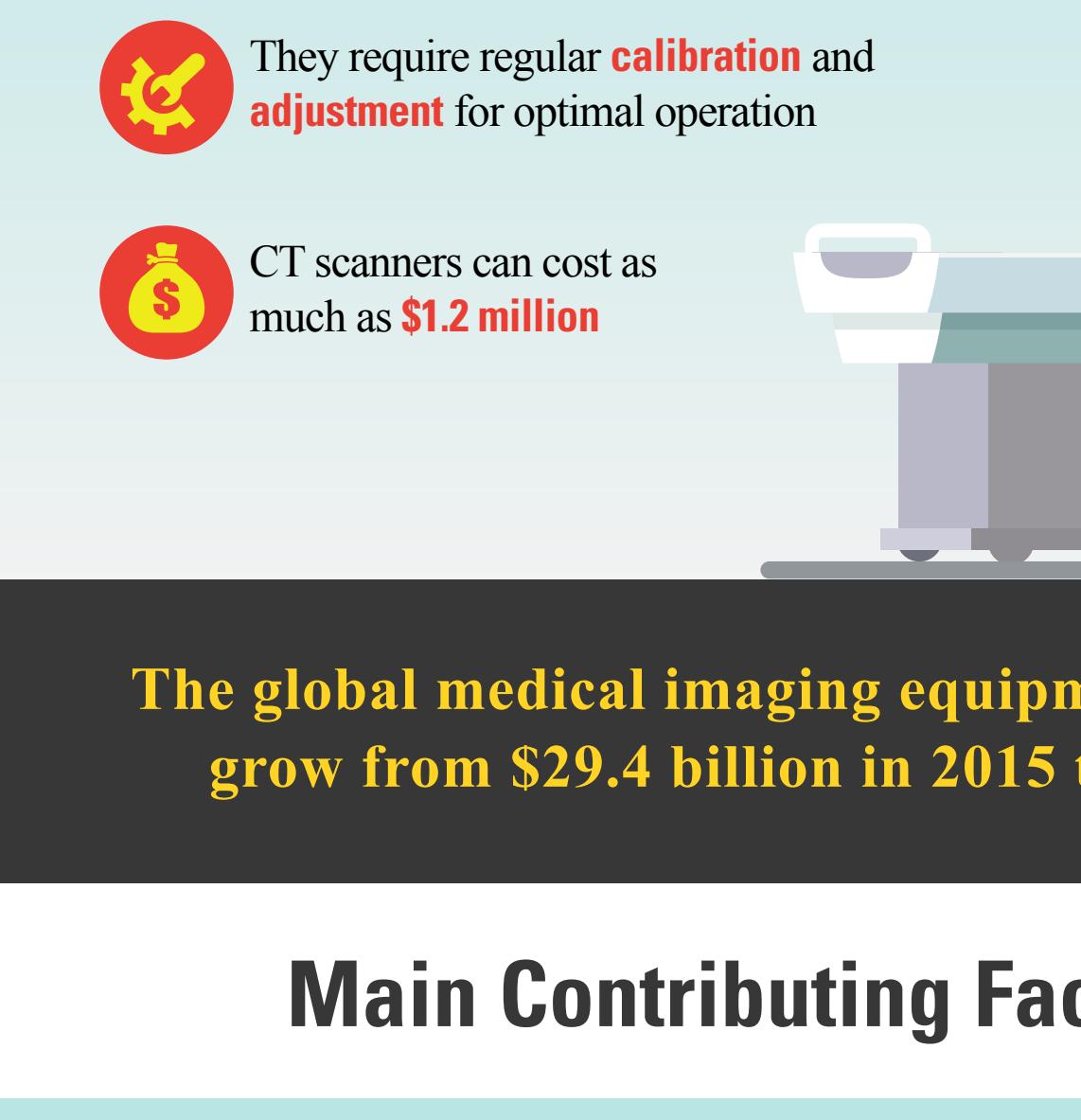
What You Need To Know About...

Medical Diagnostic Equipment



MRI Machines

Using a strong **magnetic field** and **radio waves**, MRI machines create detailed images of the organs and tissues within the body for medical and research analysis



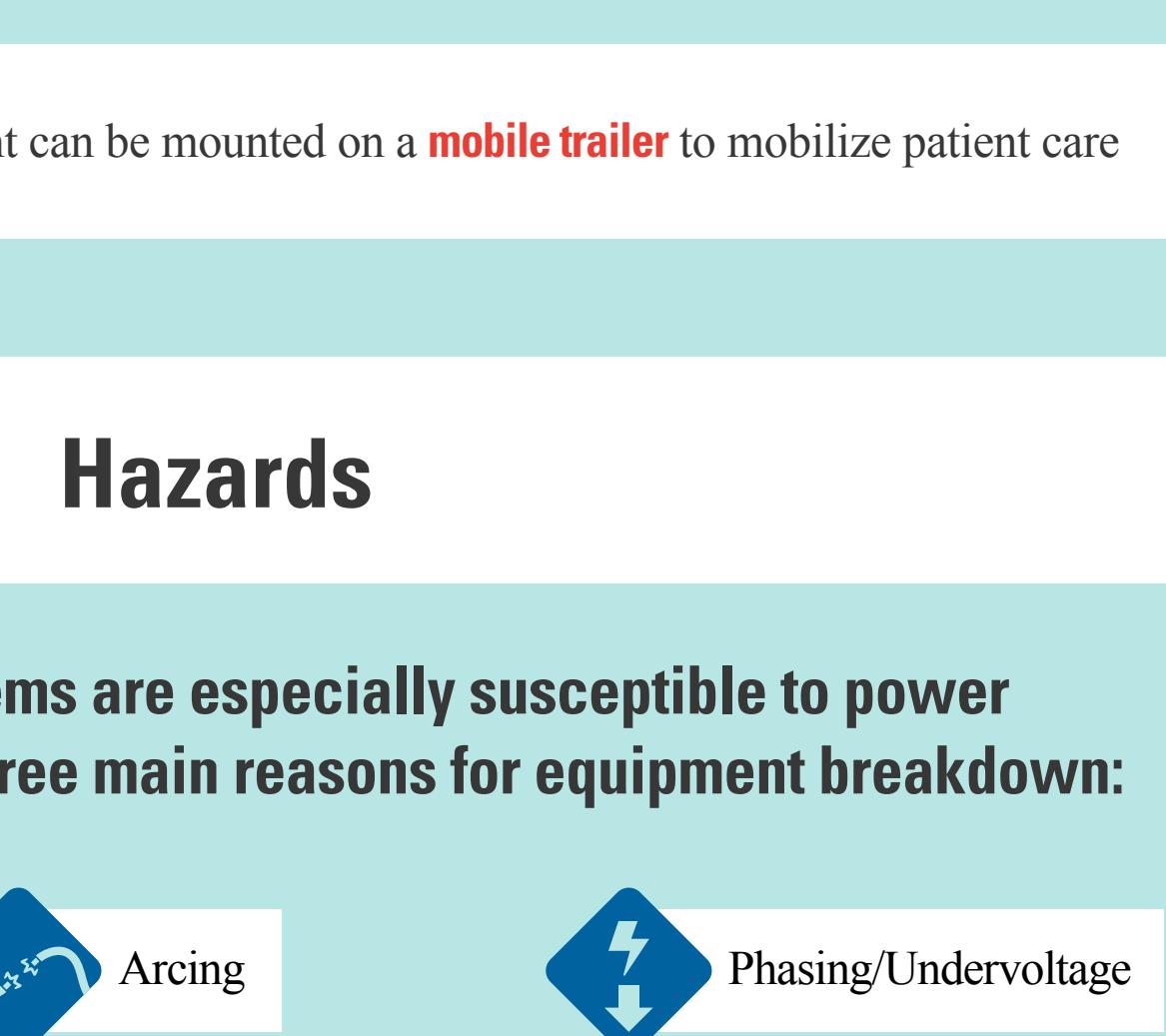
The magnets used in MRI machines have to be **cooled around -450°F using liquid helium** to prevent them from overheating and exploding

MRI machines can range in price from **\$150,000 to \$3 million**

MRI magnets are **always on**

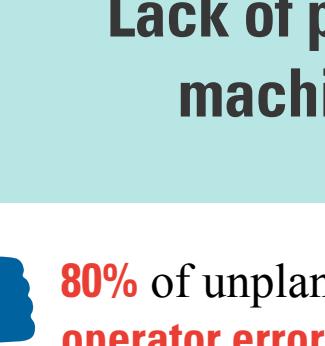
CT Scanners

CAT scan machines produce cross-sectional images of the body **using x-rays and computer technology**

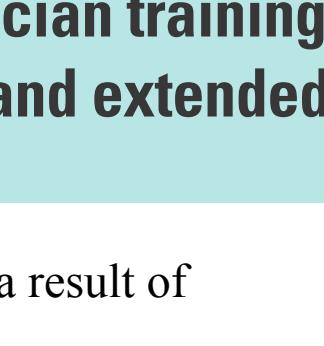


The global medical imaging equipment market is expected to grow from \$29.4 billion in 2015 to \$45.3 billion by 2023

Main Contributing Factors in Growth



Developments in computer-aided detection



Increased applications for imaging diagnostic applications



Advancements in 3D imaging



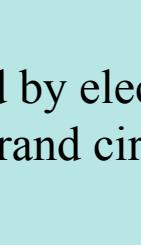
Diagnostic equipment can be mounted on a **mobile trailer** to mobilize patient care

Hazards

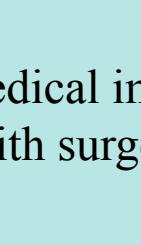
Medical imaging systems are especially susceptible to power quality issues. There are three main reasons for equipment breakdown:



Power Surges



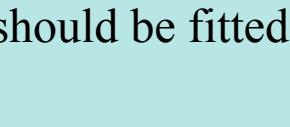
Arcing



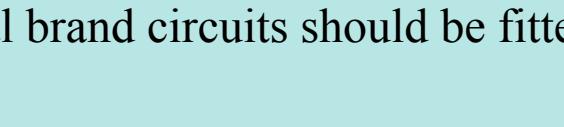
Phasing/Undervoltage



Storing medical imaging systems **below grade level** leaves equipment exposed to potential flood and surface water damage



Objects, such as cell phones, keys or coins, can become **deadly projectiles** reaching speeds of up to 40 mph when attracted to the magnets inside MRI machines



Causes of Failure

Lack of proper technician training can result in significant machine damage and extended periods of downtime



80% of unplanned outages are a result of **operator error**



Computer software failure accounts for the majority of unplanned MRI machine downtime at **27%**



A damaged MRI machine awaiting repair can result in an average of **\$14,000 lost revenue for every day of downtime**

Maintenance Tips



To prevent damage caused by electrical power surges, medical imaging equipment and its corresponding electrical branch circuits should be fitted with surge protection devices (SPDs)



Educating radiology professionals in running daily diagnostics on medical imaging systems, including calibration checks and machine adjustments, can reduce the risk of human error



An annual service agreement with a medical equipment manufacturer often guarantees at least 98% machine uptime, resulting in significant cost savings