Center for X-Ray Imaging

Dr. Larry Knight/Brigham Young University/Provo, Utah

Established in 1987, this center has successfully commercialized x-ray research by carving a product niche among the biggest manufacturers in the analytic instrument business. The ability to reflect and focus x-rays permit scientists to achieve remarkably high resolution when measuring minute objects. Experiments should begin soon on the compact x-ray laser, an instrument necessary for the success of the Strategic Defense Initiative. In addition to defense applications, advanced x-ray technology is used to detect trace materials in substances and would provide simpler, safer medical testing. Continued funding from national laboratories (LLNL, Oakridge). Support in excess of $13 million, private sector.

Overview

Current State Contract $100,000

Matching Funds $185,000
Cumulative $1,825,568

Total Jobs Created 47
Industry 27
Center 20

Direct Center Spin-offs 1

Benefiting Utah Companies ... 2

License Agreements 1

Patents Applied 4

Patents Issued 4

Technologies

*Atomic Layer Epitaxy (ALE)

*MultiLayer X-ray Optics

*Leading edge technology in X-ray imaging

*X-ray laser technology

*Thin film technology and diagnostics

*Bright x-ray sources

*Electronic x-ray detectors

*Damage resistant nano structures

*Pure silicon production

Status

*Spin-off company **MOXTEK** created 16 jobs & sales of over $1M

*10 years of experience in a difficult research area. Have become leaders with little or no competition

*Can create multi-layer reflectors with film thicknesses between 3 and 20A

*Technologies with commercial potential include:
- Micro x-ray source
- Reflective x-ray optics
- X-ray laser
- Phase microscope
- Submitted 3 proposals for federal grant programs (ATP, AXOP and CRADA)

Economic Impact

*Spin-off company, MOXTEK has received four Phase I SBIR grants and one Phase II SBIR

*Near term market for large & small X-ray windows is $6 million annually

*$100 million markets possible in medical & non-destructive testing areas

*MOXTEK negotiating with venture capital companies for expansion

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