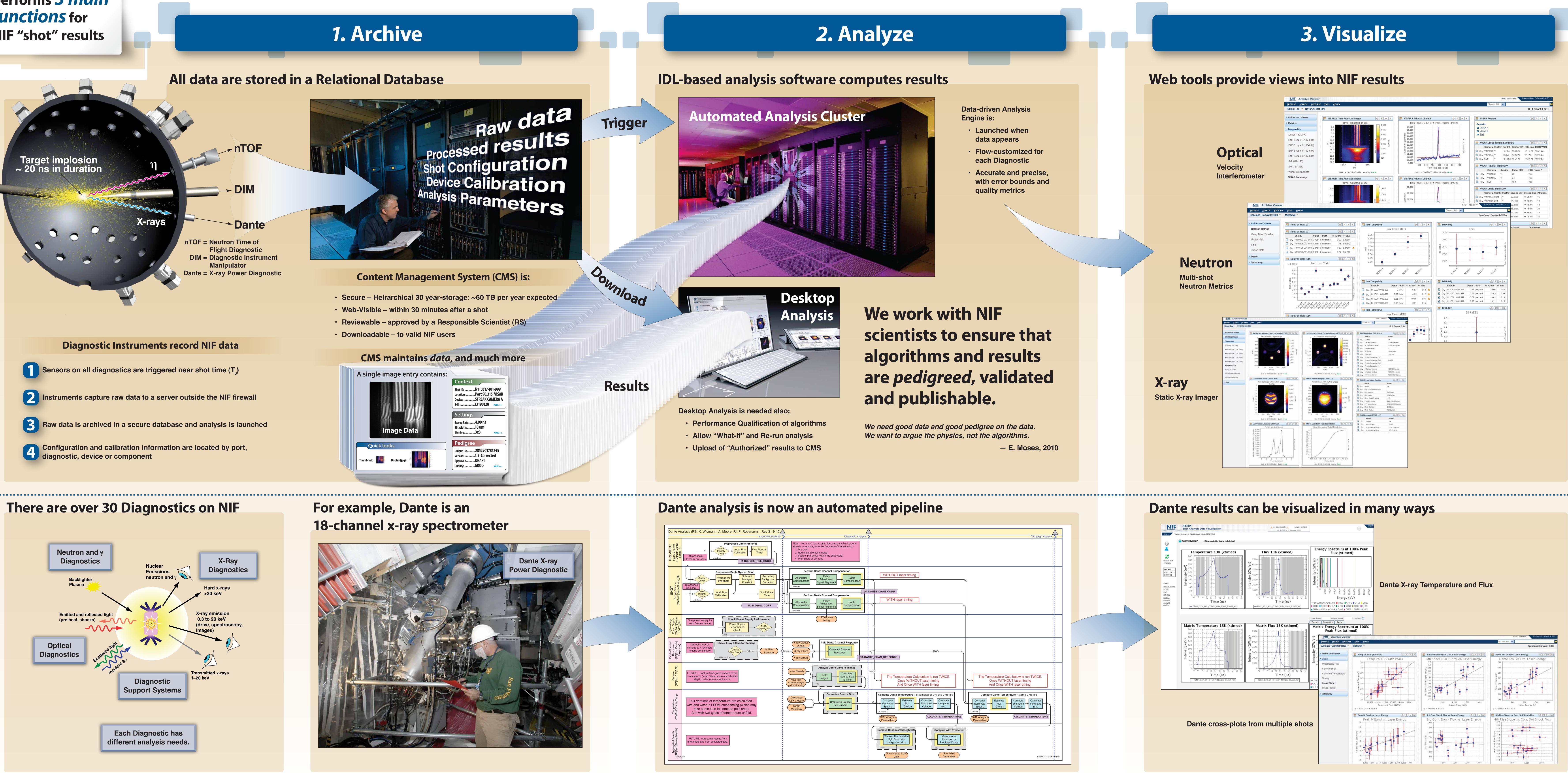
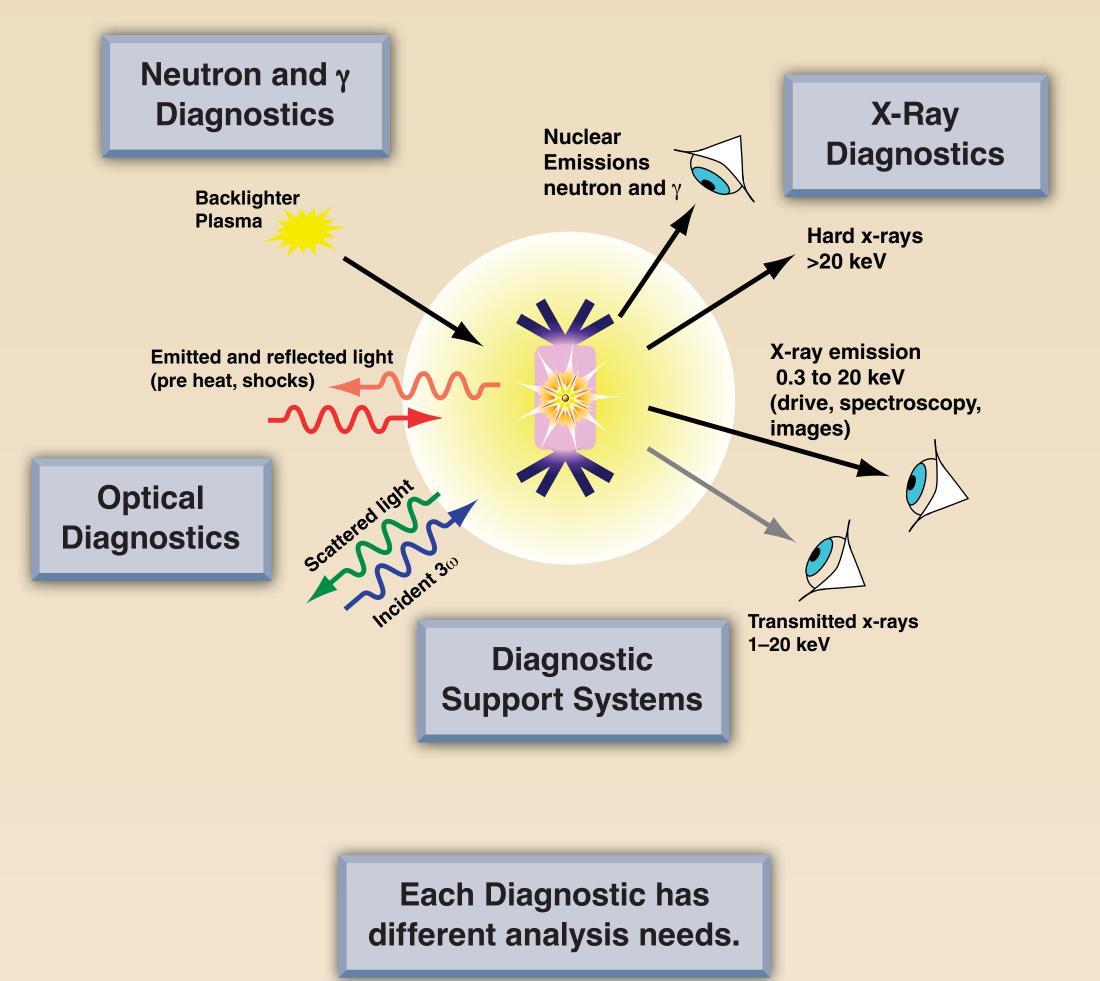
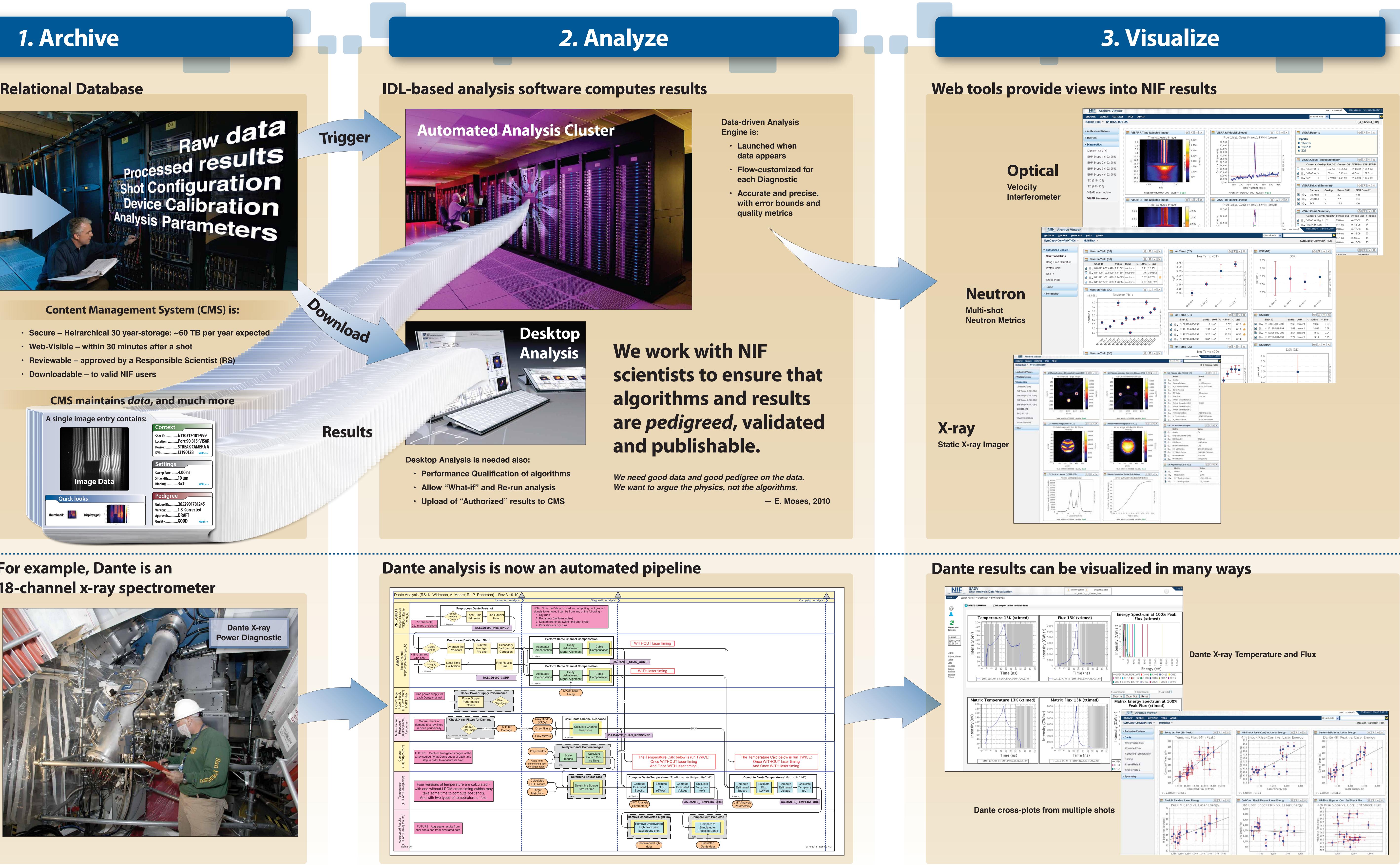
SUMMARY

Our software performs 3 main *functions* for NIF "shot" results







NIF-12-10-20609pstr_Lagin



National Ignition Facility (NIF) Shot Data Analysis and Visualization



Status

Function	FY11 Status
Archive	 Currently ~200 Archive tables holding ~20 TB ~10 TB of data and results from 273 shots in FY10 Improved speed of common queries by 10x Data extraction and Display images fully automated
Analyze	 Roughly 20% fully automated; others on desktop Standards established for code, data, calibration New Algs: Deconvolution, fiducial/comb finding, etc. Streamlined development of IDL code
Visualize	 Data-driven <i>discovery</i> of new instruments/results Enhanced Archive Viewer with <i>Dashboards</i> Multi-shot trending, plotting in latest release

Schedule / milestones

	FY11				FY12			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q 4
Archive Framework								
			\ \					
		Auton Down		nk Desktop to CMS			igree runs	
Analysis Framework								
				Deel		Dete		
		ligree pture	Data Appro		ktop up/ vnload	Data-d Engi		
Visualization Toolo								
Tools			/lulti-shot ashboards		Treno too	-	ecommission SADV	
Optical Diagnostics								
			Classifi VISAF			Thompson Scattering		
X-ray Diagnostics								
		DISC	SPBT SP	IDER ARIA	NE HE	IDI	DIXI	HEXRI
Nuclear Diagnostics								
	n	TOF GR	Н рТОГ	RAG	S WRF M N	RS & NIS ADS		NYP

Challenges and Mitigation

Challenge	Mitigation				
Meet 30-min analysis (as more diagnostics deploy)	Reliability, robustness and speed improvements; Incremental dev't				
Science results cause rapid changes in requirements; scope creep	Flexible data-driven software; External review board sets priorities				
Quantification of data uncertainties	With Scientific Team, measure and propagate errors from devices and calib				
Staff reduction for automated analysis and trending	New focus on desktop analysis support with data upload and download				
Calibration and configuration of instruments	Improved methods for verifying that calibration is both loaded and accurate				

LLNL Release Number