Maintaining the Information Flow: Signal Corps Manpower and Personnel Requirements for the Battlefield

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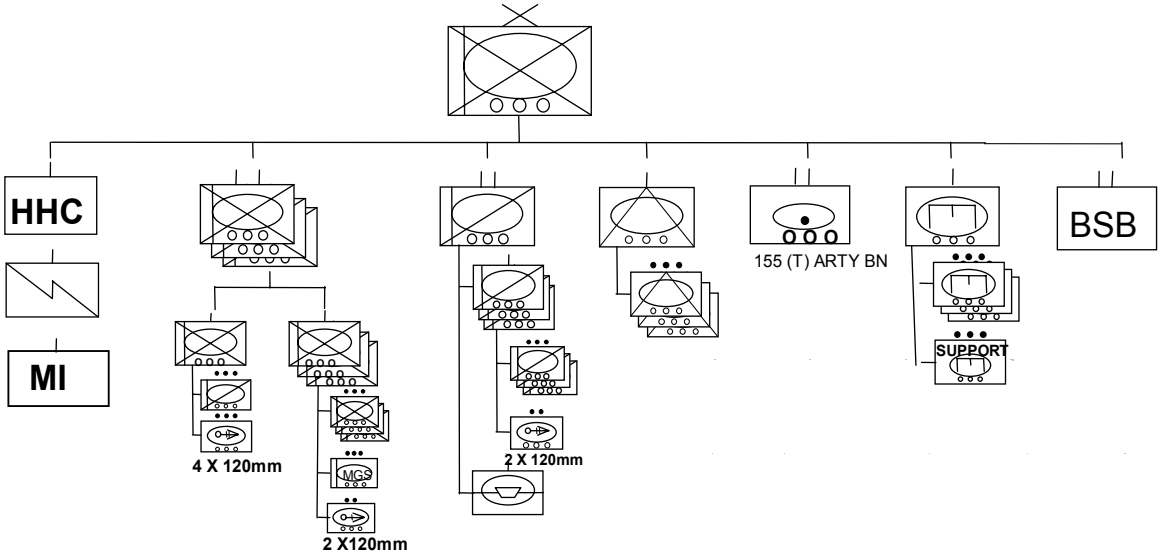
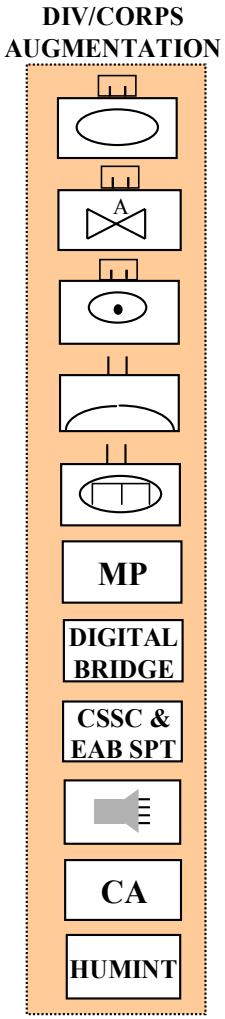
Stryker Brigade Combat Team Evaluation

- US Army moving toward new structure
- The Stryker Brigade Combat Team (SBCT)
- Use of information as a combat multiplier
- Evaluate the effectiveness of Stryker Brigade Combat Team
- Evaluate C4ISR information system
- C4ISR Concerns
  - Is C4ISR effective as information system?
  - Can it be maintained?

Stryker Brigade Combat Team





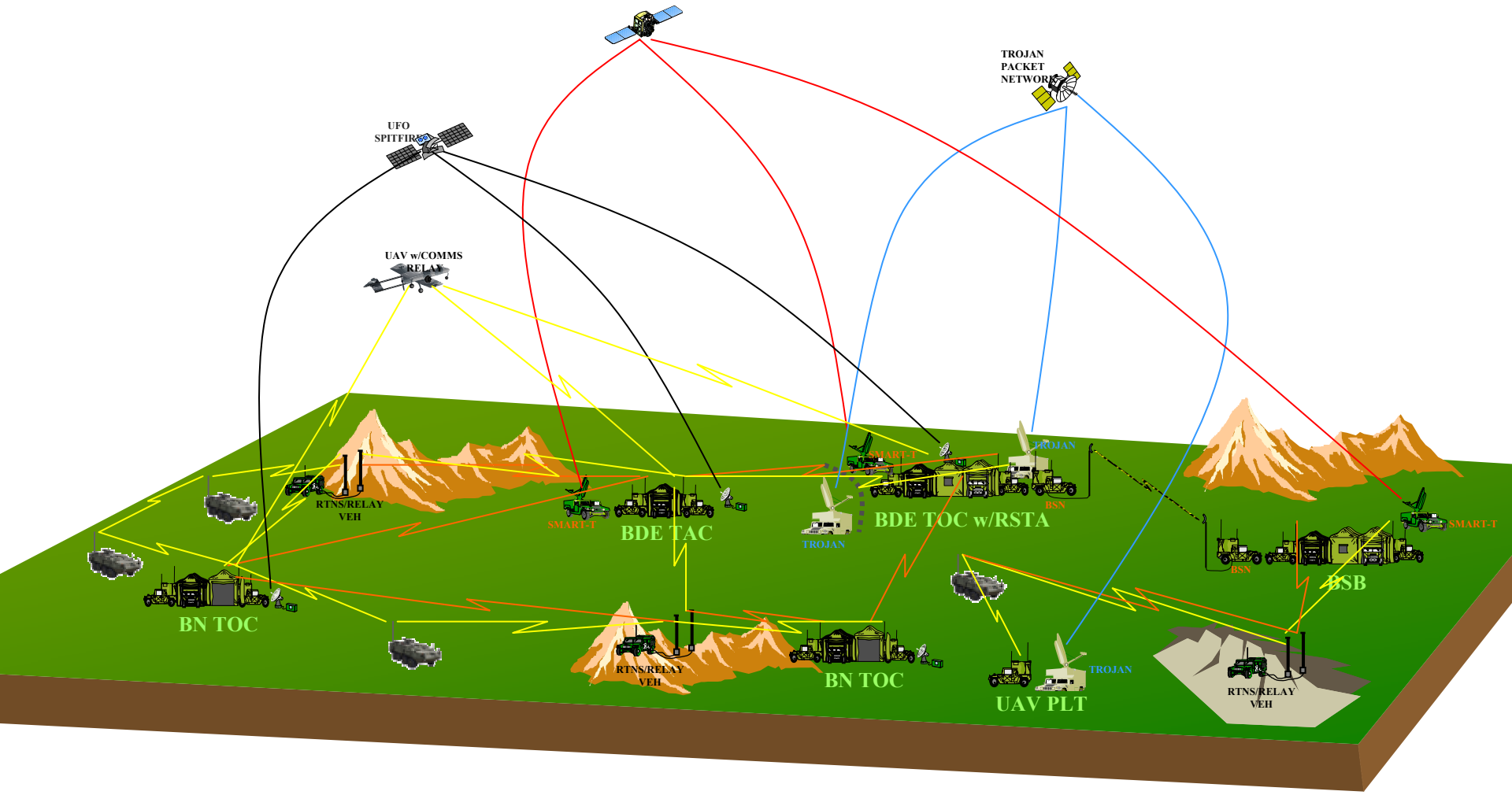
C4ISR Sub-systems

Level	Systems	Connectivity
Upper TI	MCS AFATDS ASAS CSSCS	LAN NTDR
	BSN EPLRS NCS SMART-T Radio Retrans Spitfire SOTM HF Radio	
Lower TI	Inter/Intra-Communications Systems FBCB2 Sensors	SINCGARS EPLRS Radios

Stryker Brigade Combat Team C4ISR

Human Research and Engineering Directorate

Army Evaluation Center



Evaluation of C4ISR Support

- Need to maintain C4ISR system to keep it operational
- Sufficiency of manpower and personnel levels
- Signal personnel too overworked to maintain C4ISR
- Therefore, evaluate the signal personnel maintenance of C4ISR

Analyses for Types of Signal Personnel

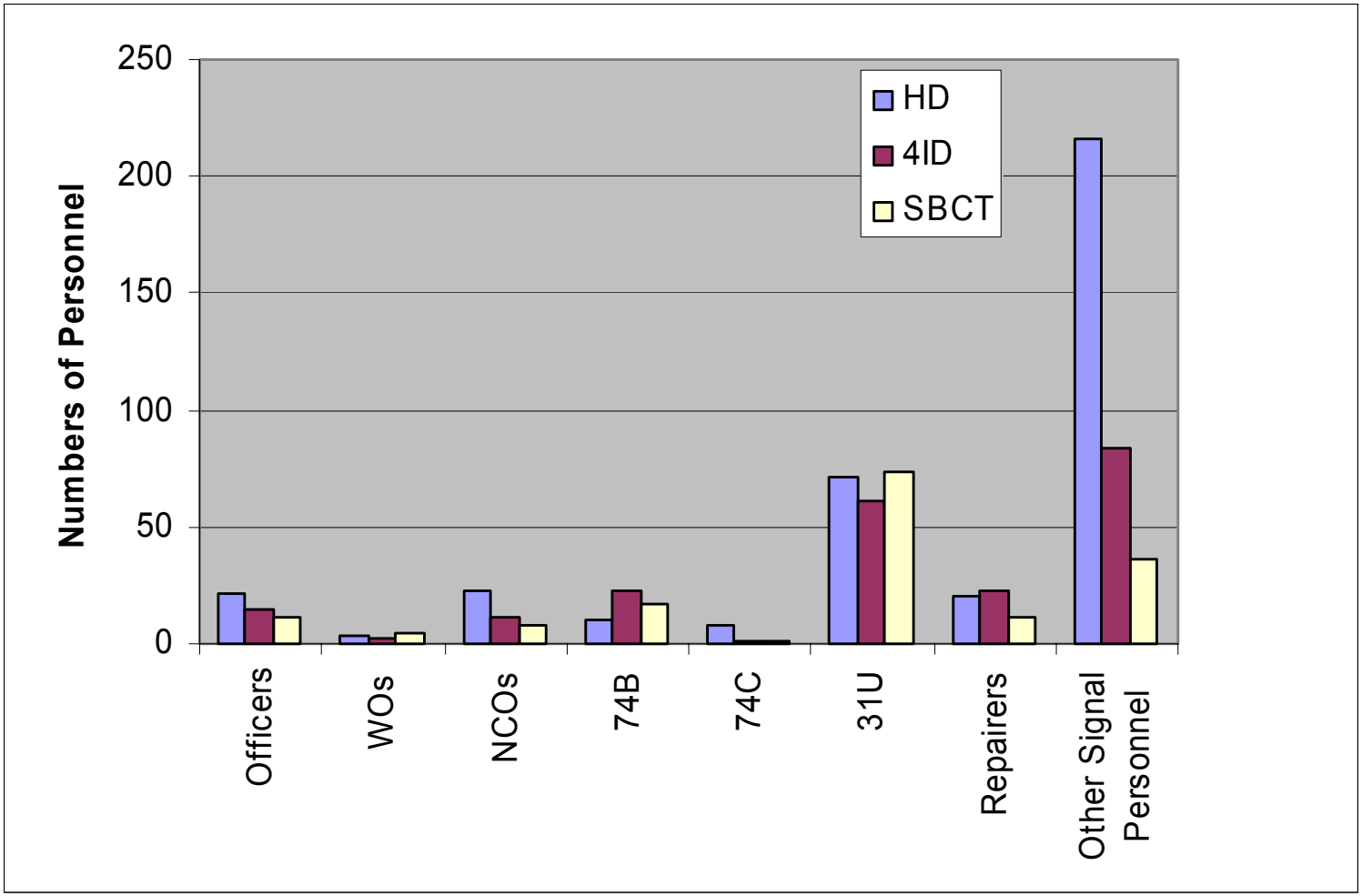
TYPES OF SIGNAL PERSONNEL	MOSs Represented	ANALYSES			
		MTOE signal personnel	Electronic equipment/ repairer	C4ISR backlog	Signal soldier questionnaire
Officers and NCOs	25A, 53A, 250, 251, 00Z, 31W 31Z, 33W, 35W, 74Z	P			
Information Systems and Networking	74B	S		P	S
Signal Communications Systems	31C, 31F, 31L, 31R, 31S, 31U	S		P	P
Plans and Communications Security	74C	P			
Audio/Visual Communications Systems	74C			P	
Communication / Electronic Equipment Repairer	35E, 35F, 35J, 31F, 31P	S	P	P	

P = Primary Data Analysis S = Secondary Data Analysis

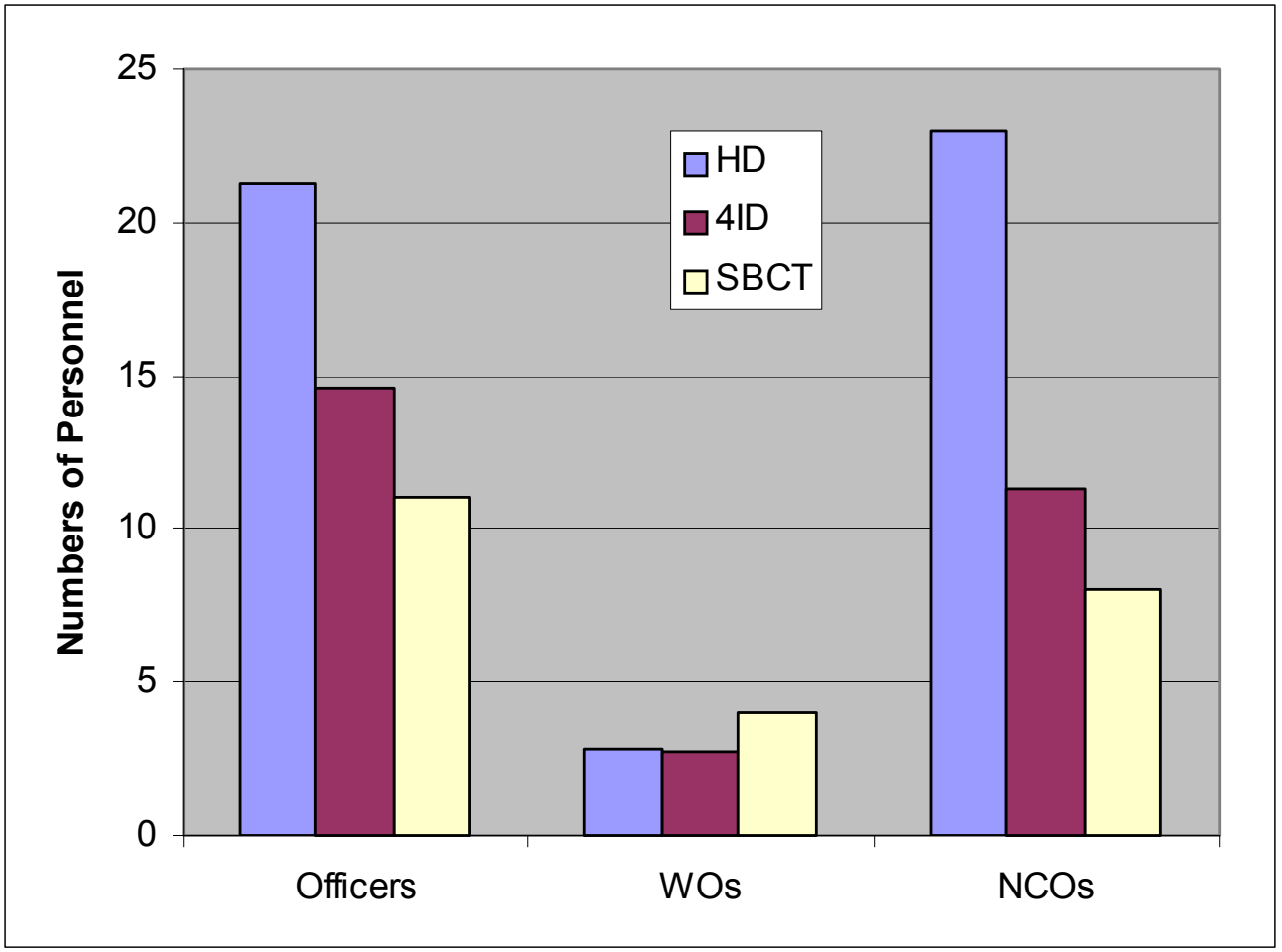
Table of Organization and Equipment – Signal Personnel

- Comparison of TOEs for Stryker, Heavy Division, and 4th ID
- Heavy Division - similar to Stryker
  - Organization
  - Size
  - Mobility
  - C3 structure
- 4th ID - Army's First Digitized Division
  - C4ISR electronic equipment same as Stryker
- For comparison normalized personnel based on size of Stryker Brigade

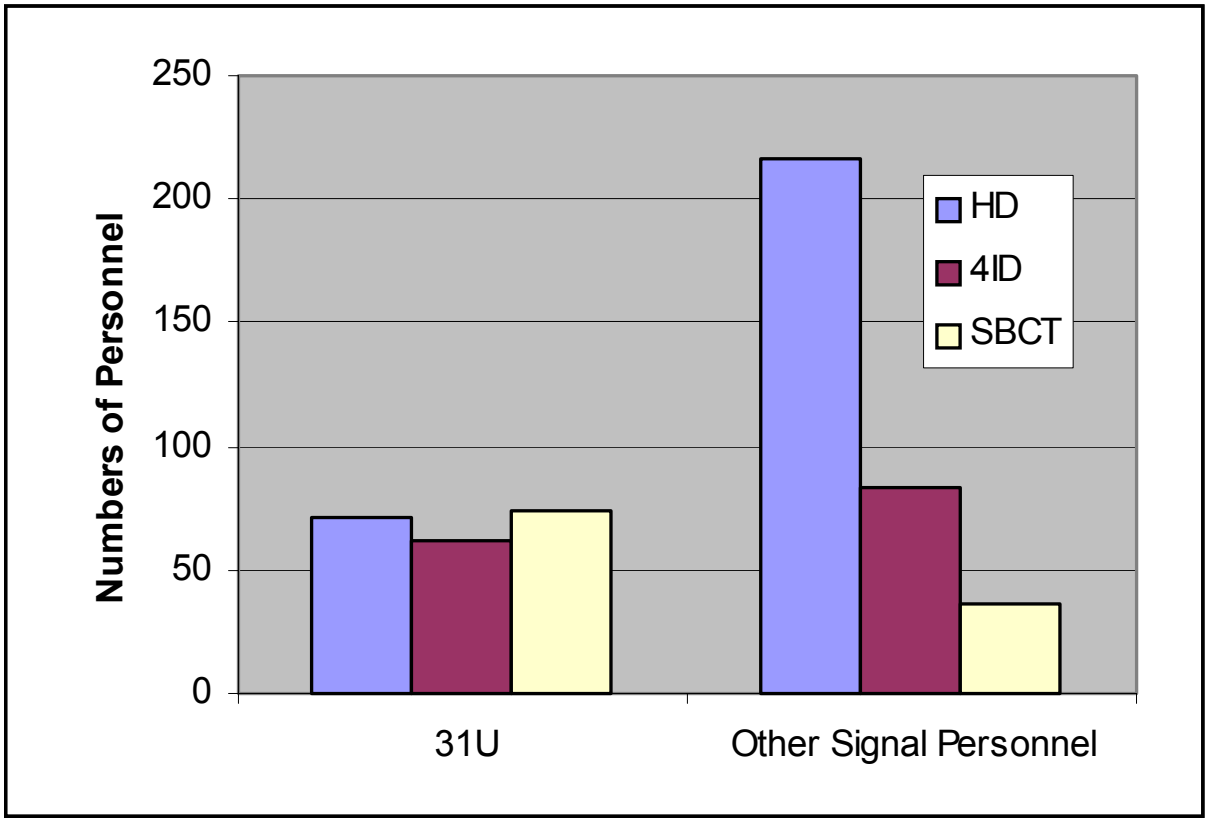
Comparison of Signal Personnel by Types



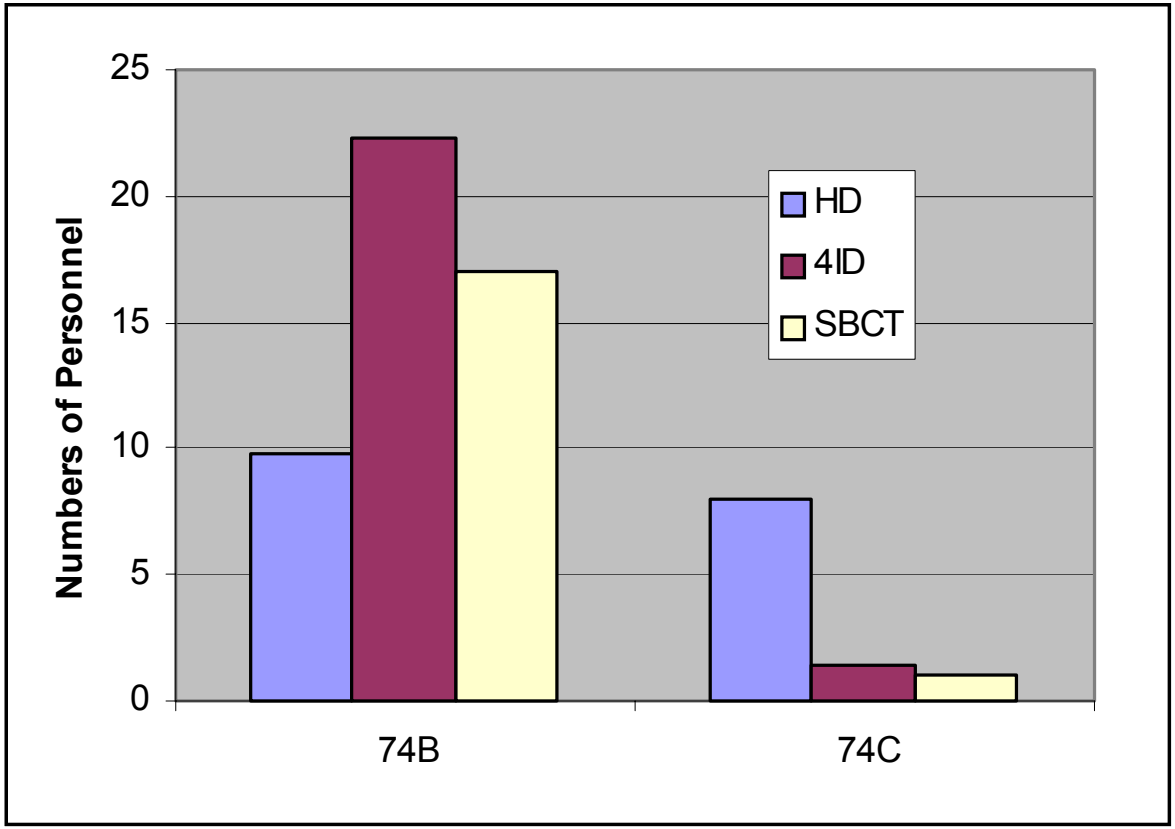
Officers, Warrant Officers, NCOs



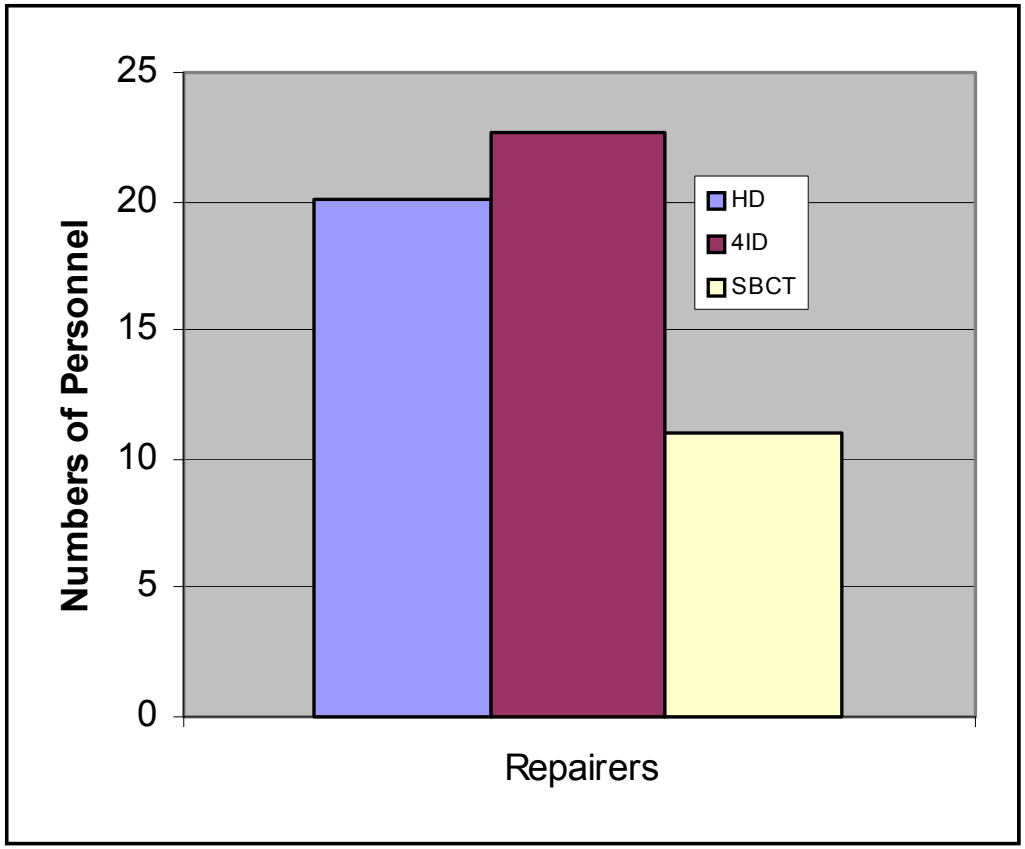
Signal Communications Personnel



Information Systems and COMSEC Personnel



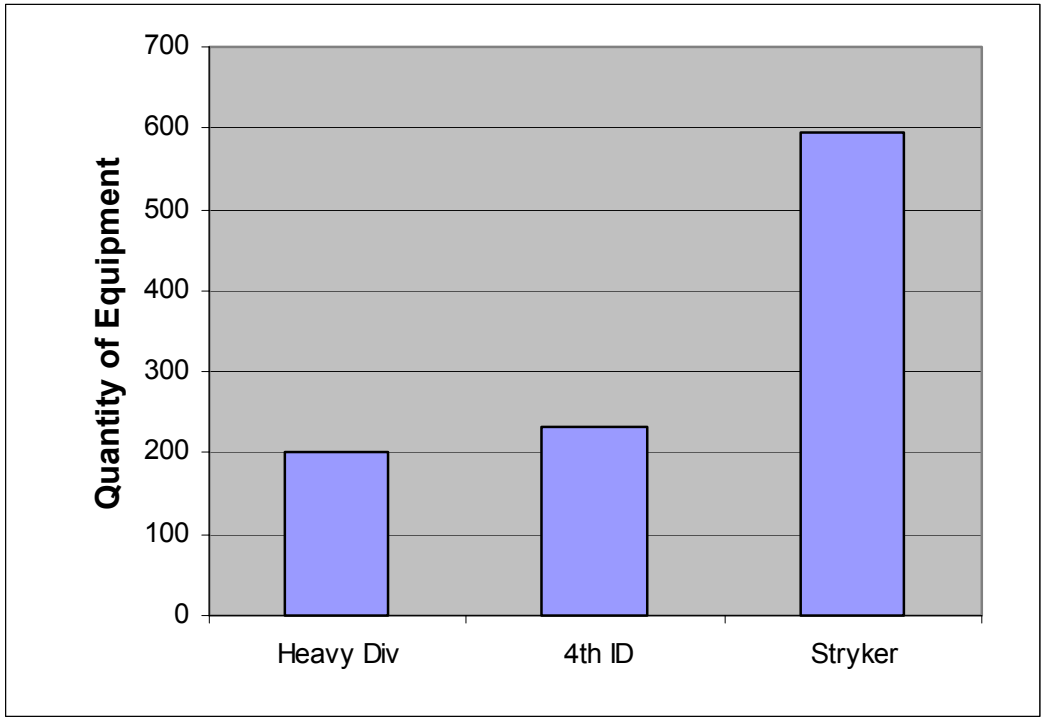
Repairers



Analysis of Electronic Equipment Repairers

- Concern that as Army fields more electronic equipment electronic equipment repairers will be overburdened
- Tallied electronic equipment
  - Stryker Brigade
  - Heavy Division
  - 4th ID
- Divided totals by number of C4ISR electronic equipment repairers assigned to each unit

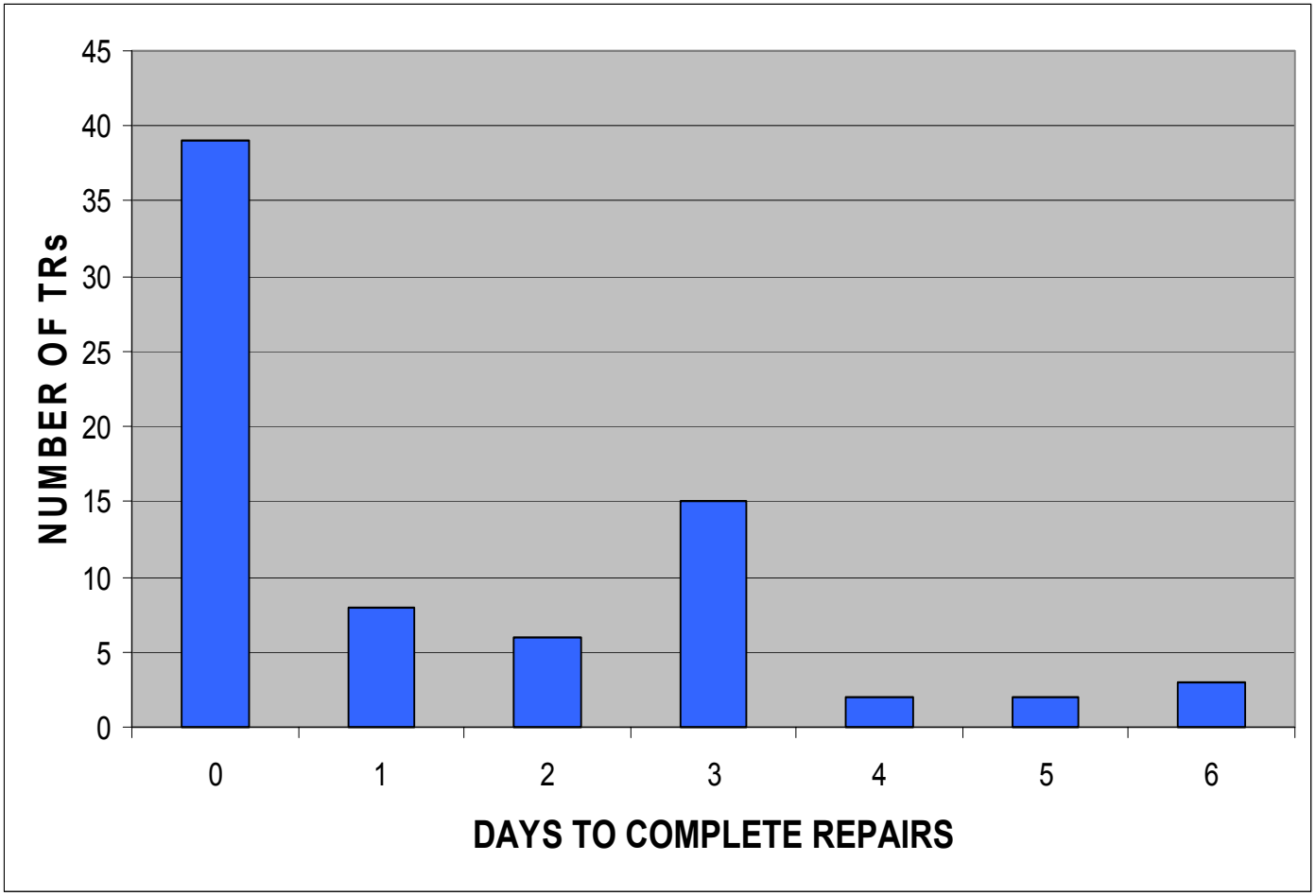
C4ISR Equipment per Repairer



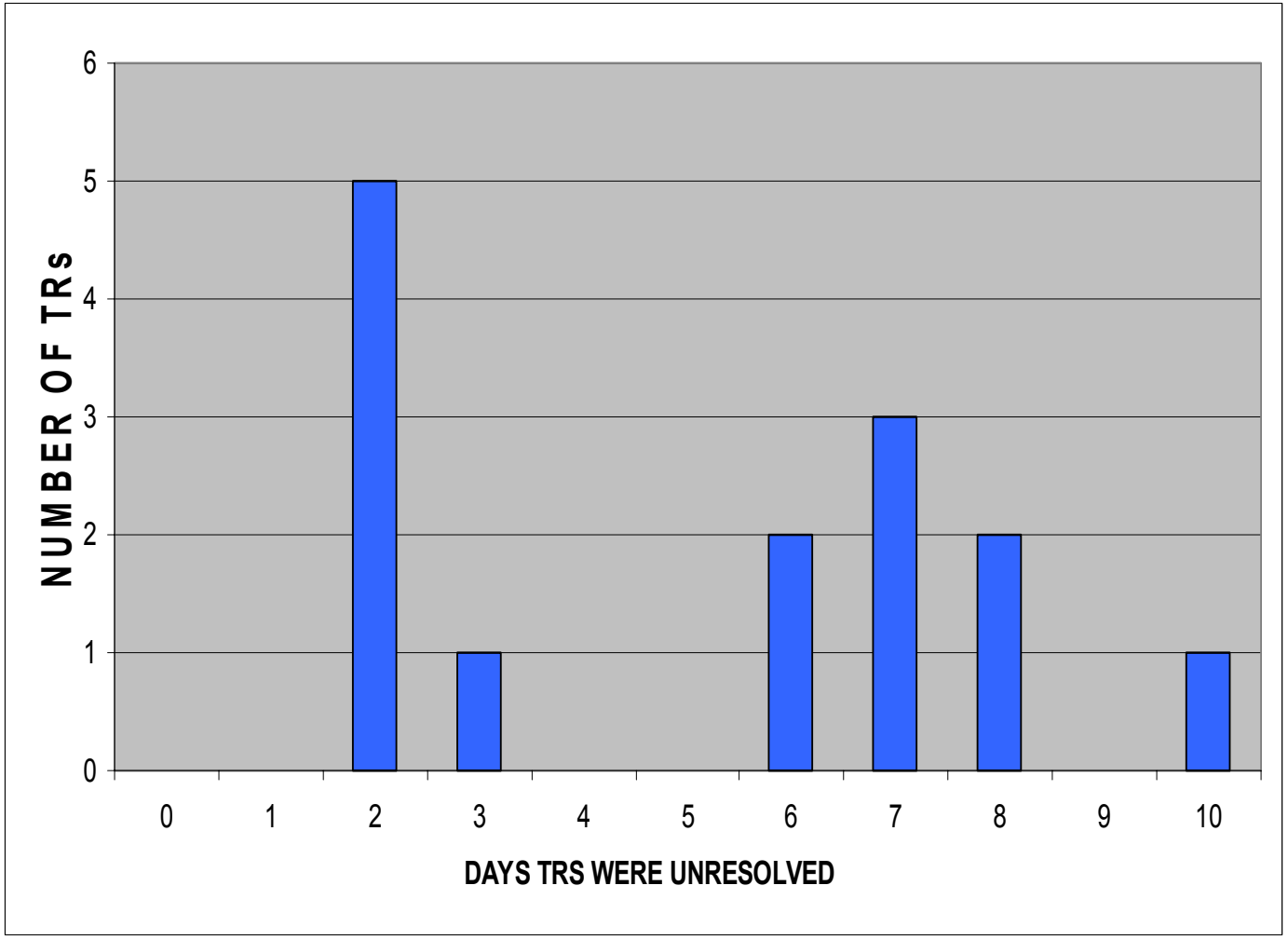
Analysis of C4ISR Trouble Reports (TRs)

- Analyzed Trouble Reports from an Stryker Brigade operational exercise
- Entire brigade was involved in field exercise lasting 14 days
- TRs were logged problems with systems
  - Included system
  - Organization/location
  - Reported times and times problem was resolved
- C4ISR TRs – 89
- Backlog defined as TR not resolved within 24 hours

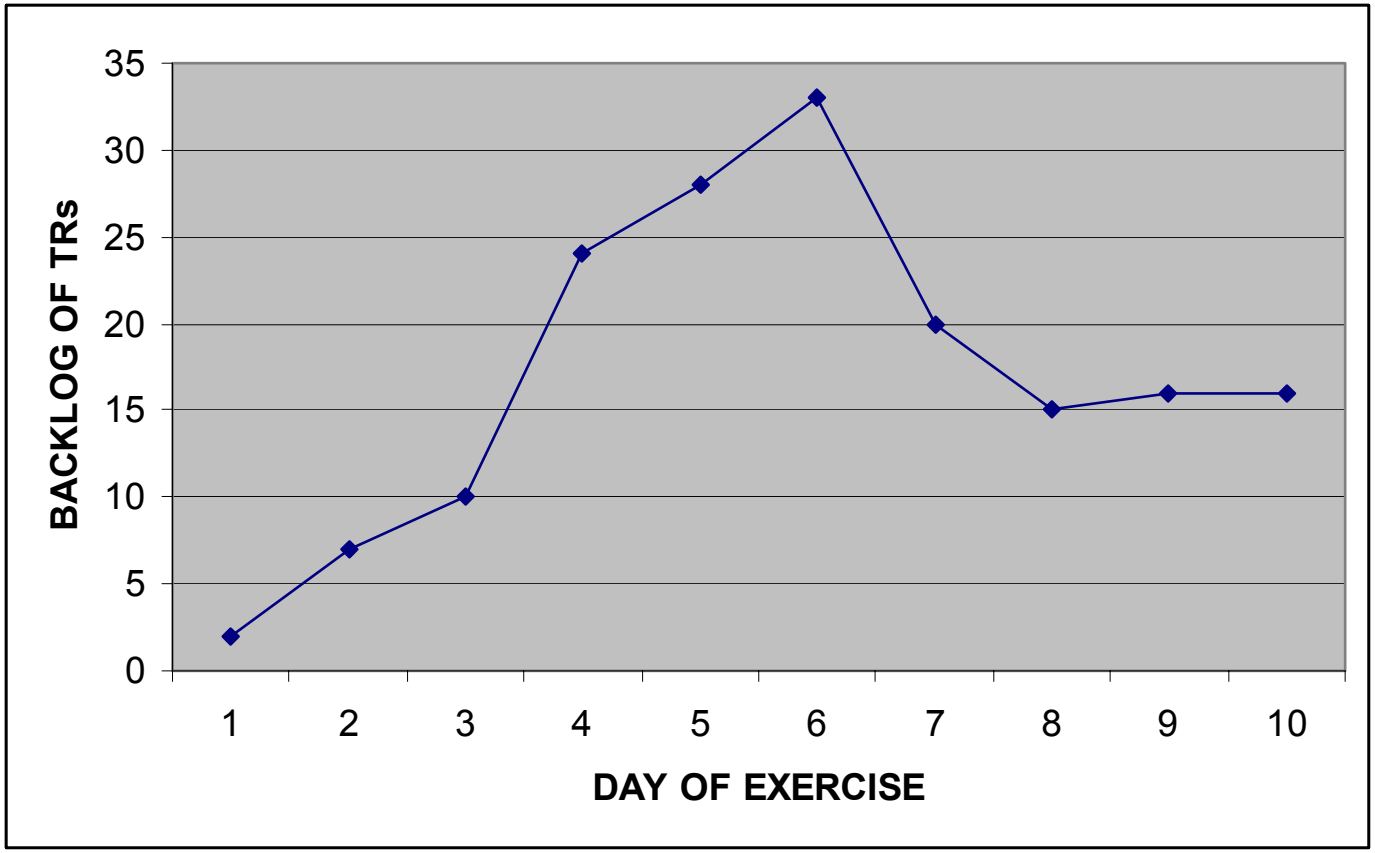
Number of Days to Resolve TRs



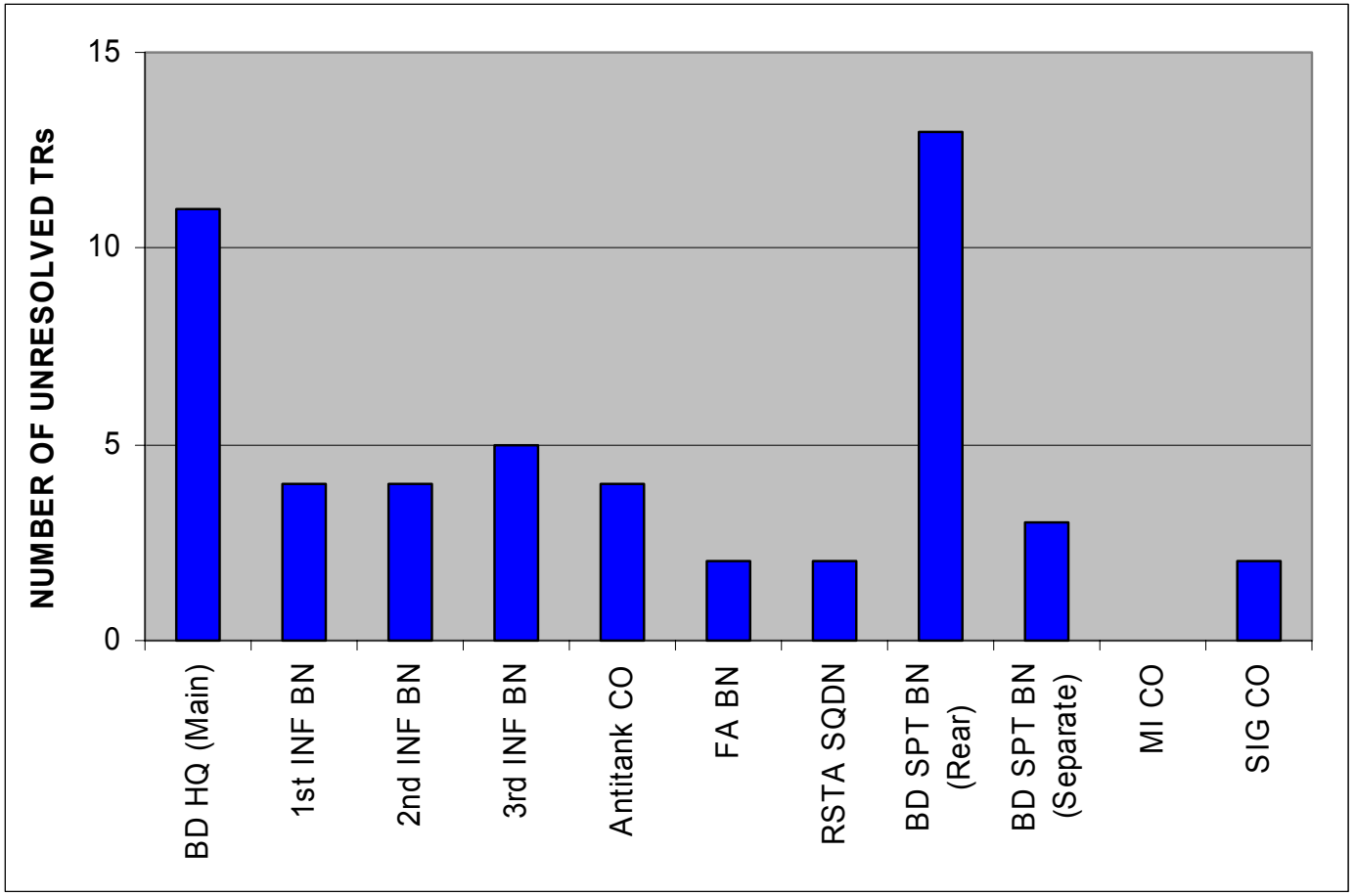
Number of Days TRs Not Closed, Remained Open



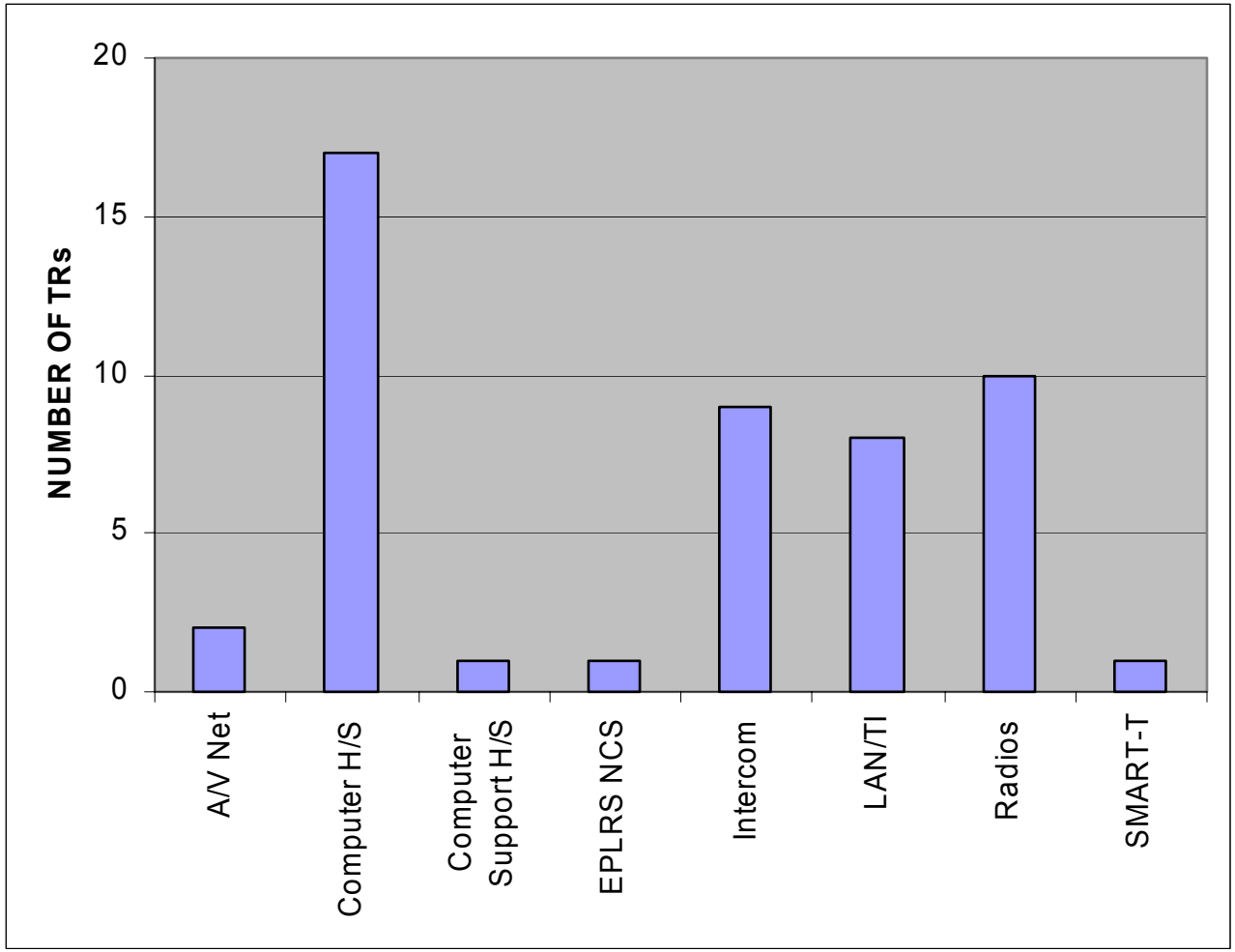
Daily Backlog of TRs



Unresolved TRs at Various SBCT Units



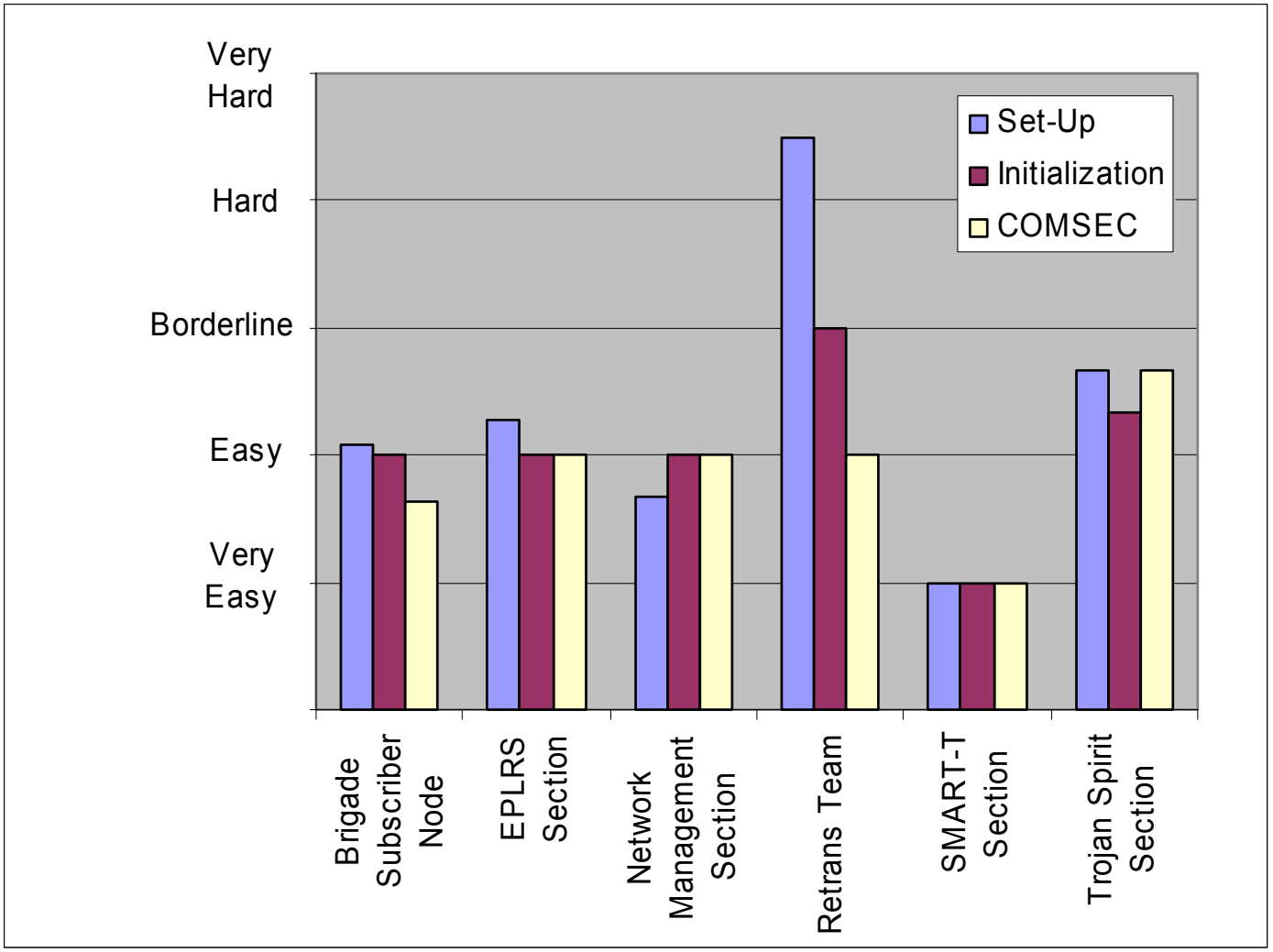
Unresolved TRs by Types of Equipment



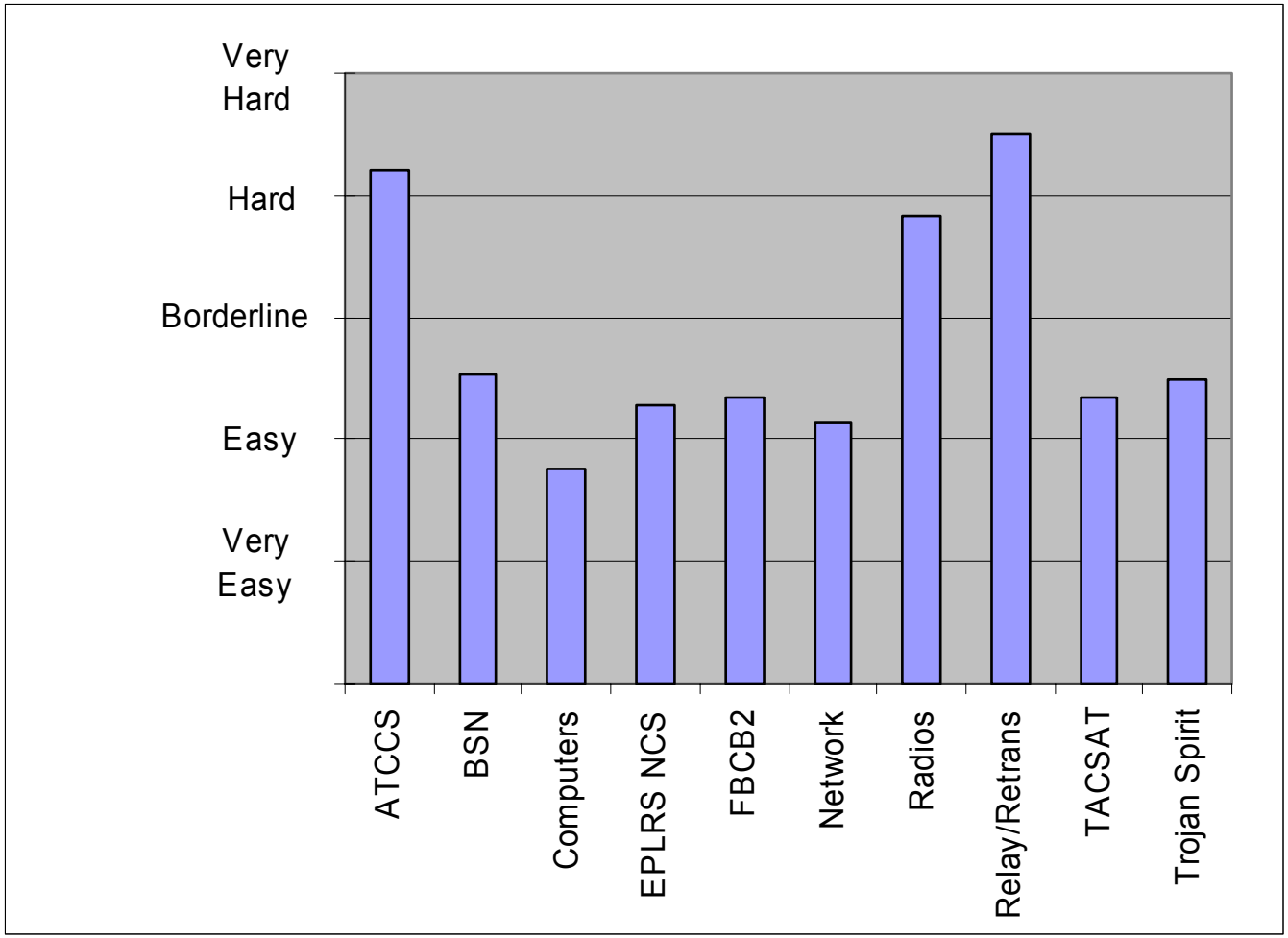
Signal Company Personnel Questionnaires

- Signal Company personnel in Stryker Brigade
- Questionnaires administered after the operational exercise
- Included 34 signal personnel (39% of the Stryker Signal Company)
- Ranged in rank from E3 through 1st Lieutenant
- Included personnel from all sections of the Signal Company
- Asked about set-up, initialization, and maintenance of their equipment

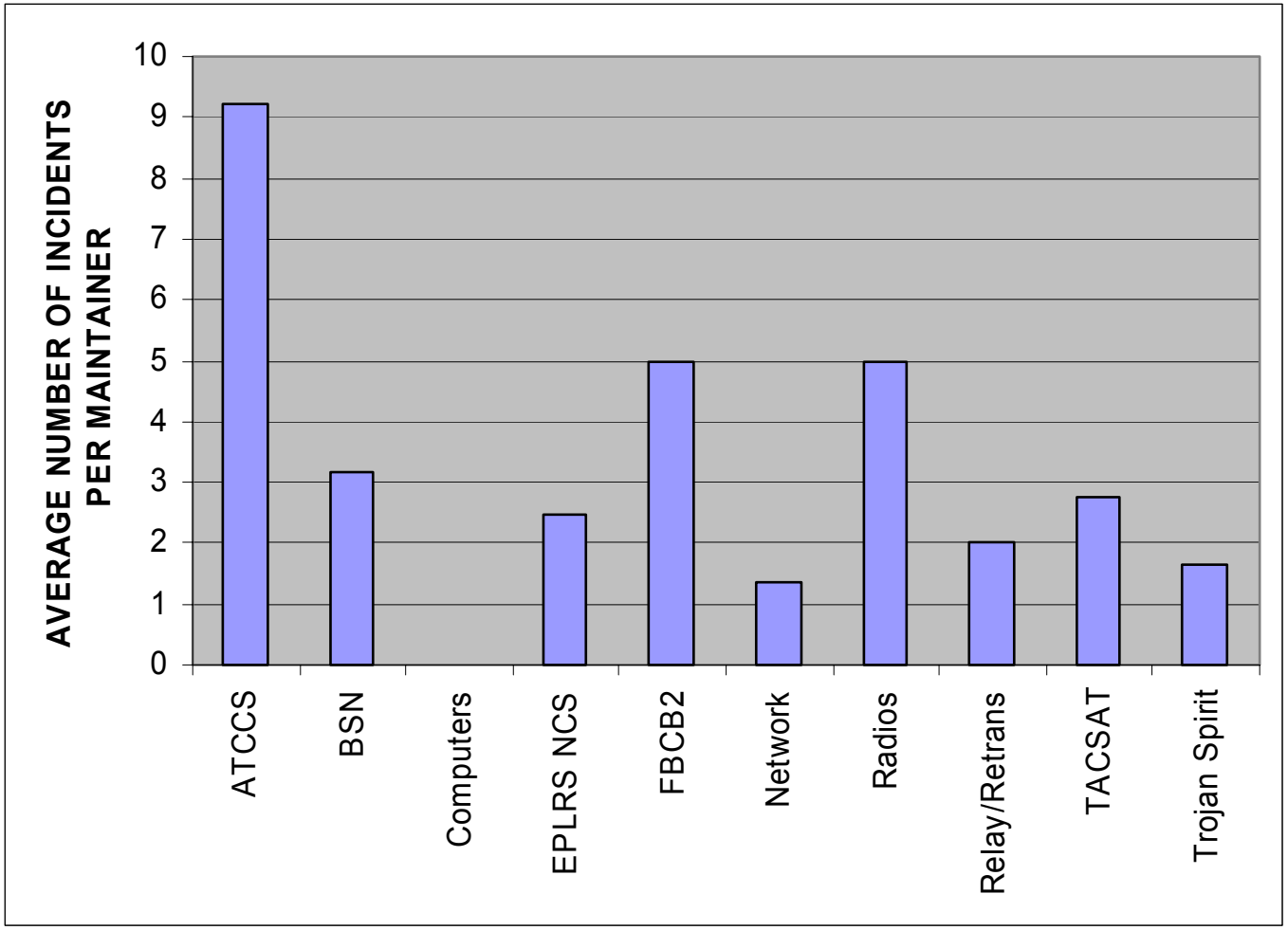
Questionnaires on Set-up



Questionnaires on Maintenance

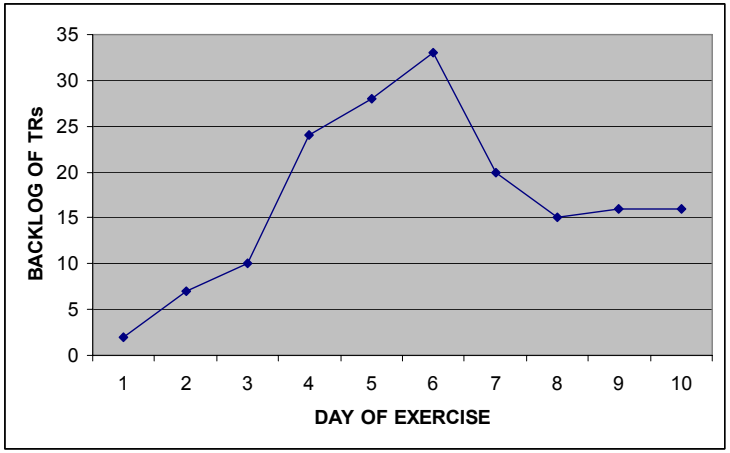


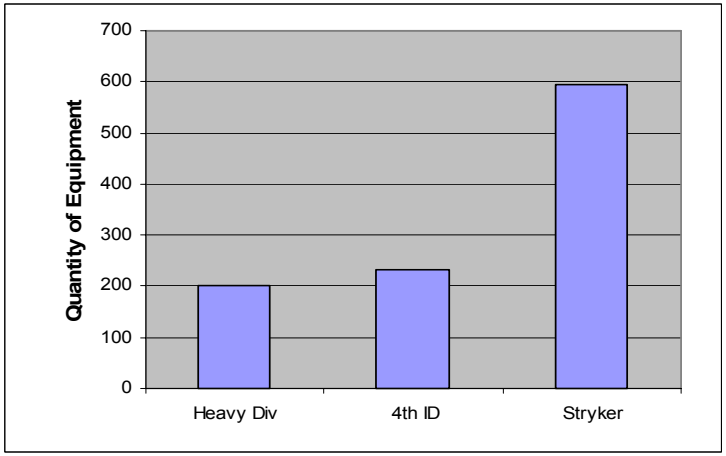
Average Number of Incidents by Maintainer



Conclusions

- The support C4ISR personnel assigned to Stryker Brigade may not be sufficient.
- Numbers of InfoSys personnel should be increased.
- Manpower levels for electronic equipment repair personnel needs to be increased.
- COMSEC personnel probably should be increased.





Backup Slides

Stryker Brigade Personnel by Unit

	Total Personnel	Signal Personnel
HHC	127	4
MI CO	68	0
INF BN	748	19
FA BN	301	21
Antitank CO	65	1
RSTA SQDN	499	24
BD SPT BN	382	17
ENG CO	128	2
Signal CO	88	84
Totals	**2406**	**172**