

모델기반 시스템 엔지니어링을 적용한 유도탄의 사양서 개발 방안 연구

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AJOU UNIVERSITY DEPARTMENT OF SYSTEMS ENGINEERING

발표 순서

- ❖ 대상 시스템 개요
- ❖ 연구 목표
- ❖ 과제 수행 일정
- ❖ 수행 프로세스
- ❖ 연구 내용
- ❖ 결론
- ❖ 향후 연구계획
- ❖ 참고문헌

대상 시스템 개요

ATACMS Block 1A



- GPS AIDED GUIDANCE
- RANGE: 70-300KM
- 300 APAM
- M270 LAUNCHER(IPDS)

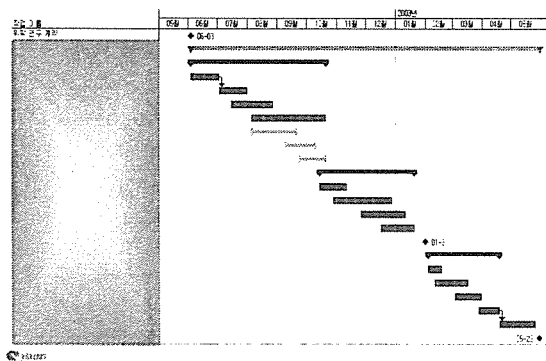
TARGET SET

- AIR DEFENSE (SA-2,3,6,8,13, AND AAA)
- LOGISTICS
- HELICOPTER STAGING AREAS
- ASSEMBLY AREAS
- C2 SITES
- RADARS (SIDE NET, MARCONI, ETC)

연구 목표

- ❖ 연구 목표 (Mission)
- ❖ 단계별 목표 (Objectives)


과제 수행 일정




연구 수행 프로세스

Systems Engineer

Support SE Process



Provide Domain Knowledge

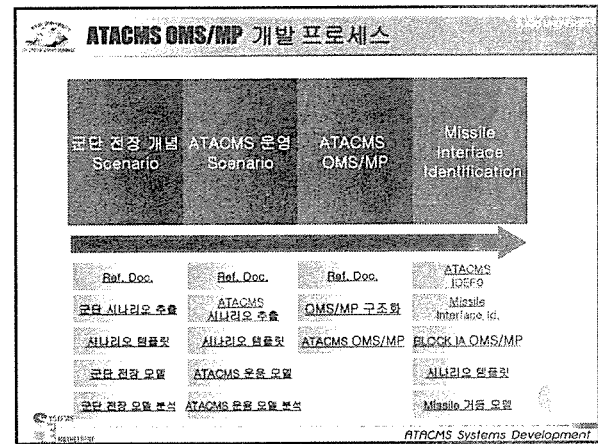
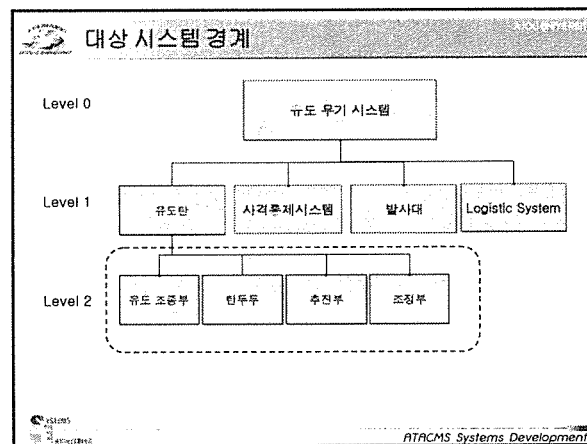
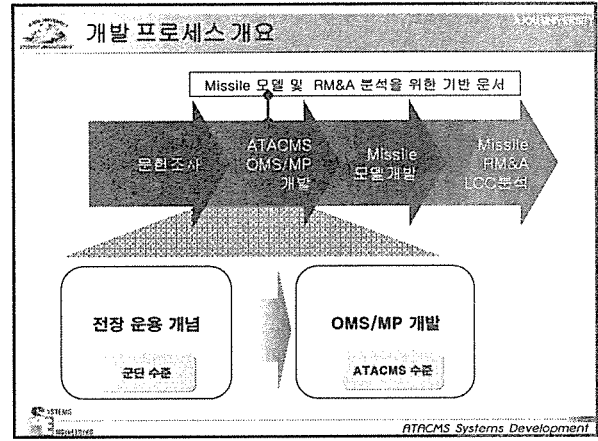
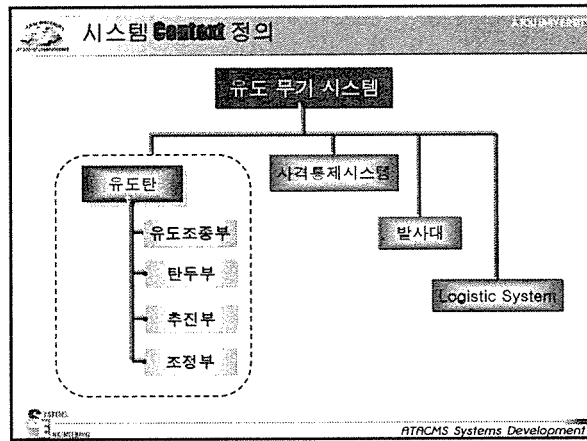
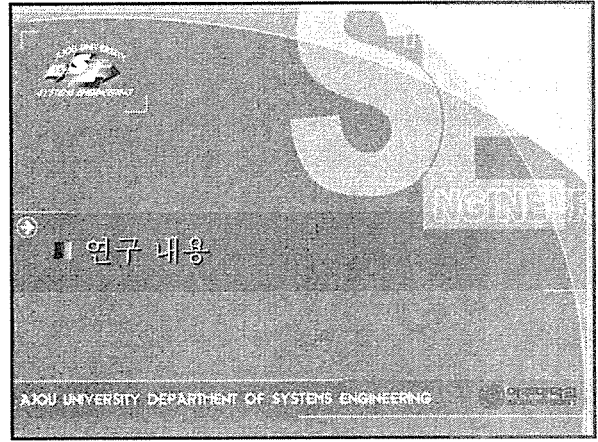
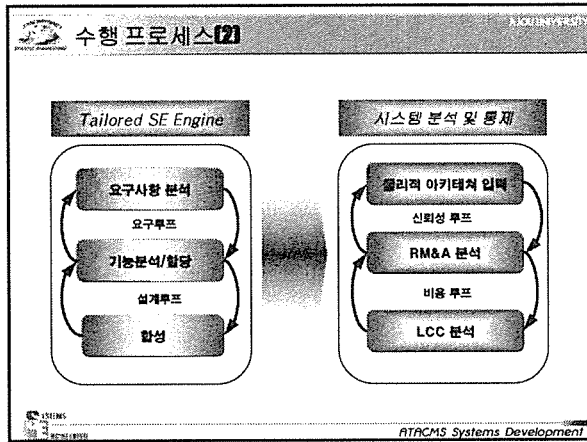


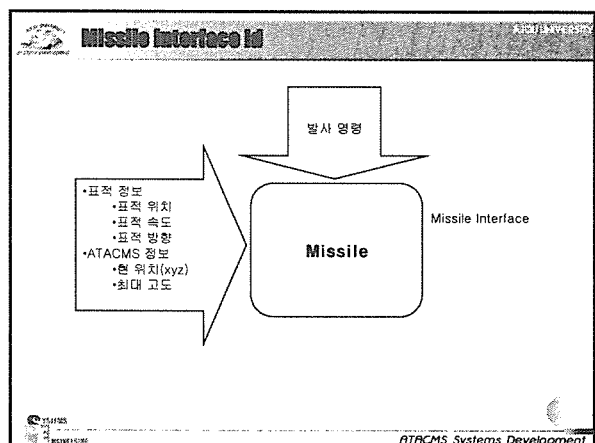
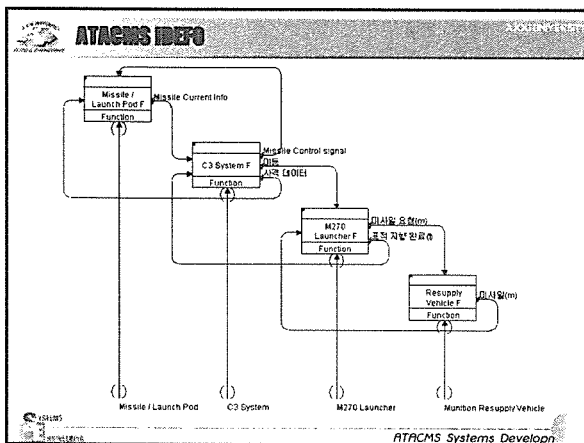
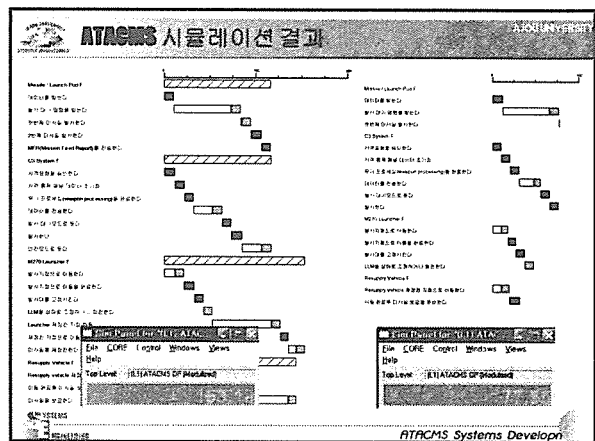
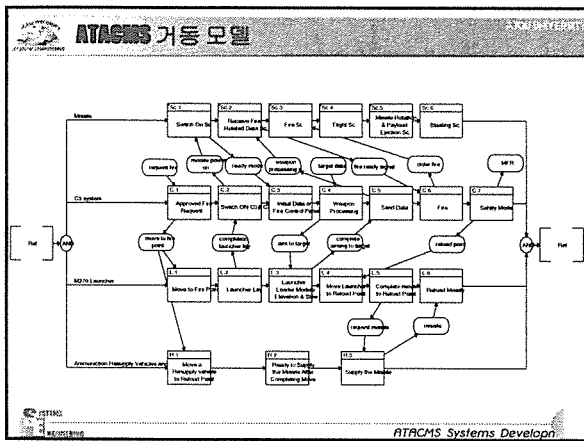
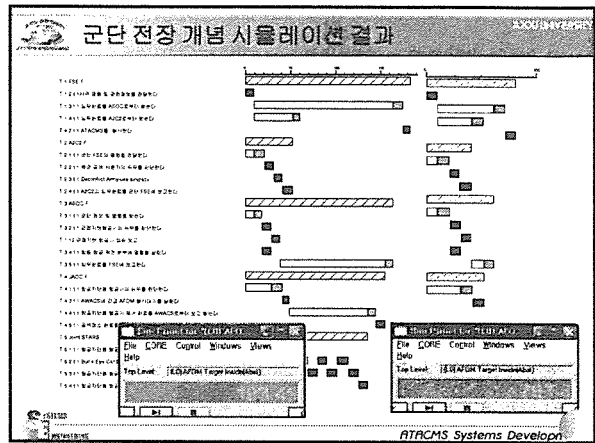
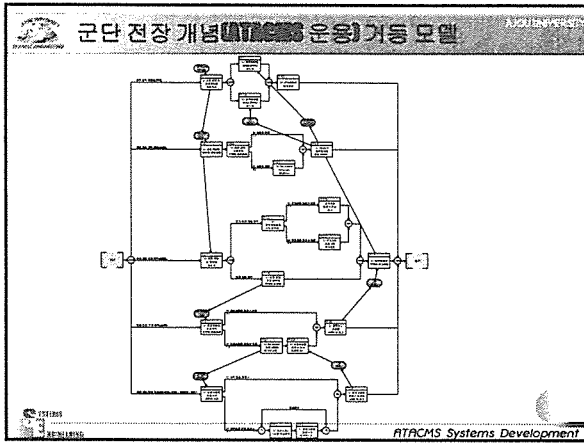
Domain Specialist

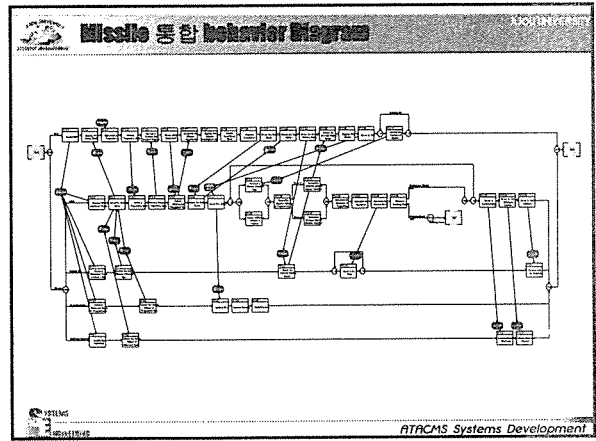
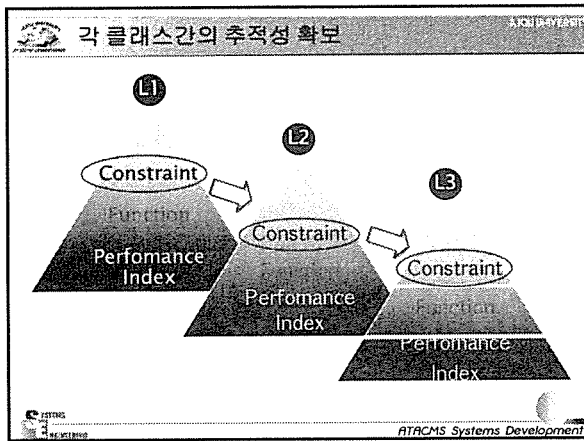
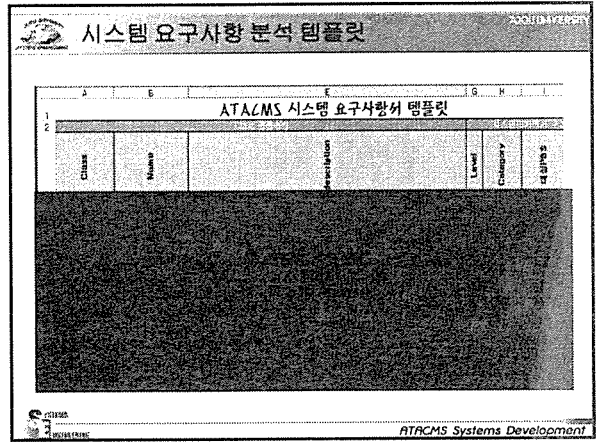
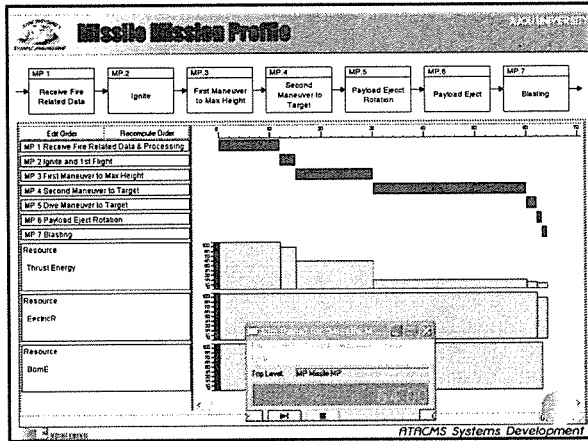
• 자료 수집 및 분석
 • 작업에 의할 소모에 따른
 • 과제 범위 조정 필요

보안 RISK TRADE MOE

• 보안 등록 필요
 • 자료 제공 및 협의 체
 • 구성 필요







현재까지의 성과

- ❖ ATACMS 운용 개념 모델 개발
- ❖ ATACMS OMS/MP 개발
- ❖ 전장개념에서 Missile 시스템 경계 정의 프로세스 개발
- ❖ Missile 시스템 입출력 항목 정의
- ❖ ATACMS BLOCK IA Missile Mission Profile 정의
- ❖ Missile 수준에 대한 OMS/MP 작성.
- ❖ Missile 의 거동모델

분리조사 → ATACMS OMS/MP 개발 → Missile OMS/MP 개발 → Missile RM&A LCC분석

ATACMS Systems Development

결론

- ❖ 현 프로세스 진행으로 시스템의 복잡성 문제 해결
 - Partitioning / Layering
- ❖ 연구 수행의 최종 결과물인 시스템 사양서로 인해 향후 개발시 재설계 반복 단축 및 비용 감소 효과 기대

ATACMS Systems Development

향후 계획

- ❖ Missile 정비 모델 개발
- ❖ Missile 통합모델 개발
- ❖ Missile RM&A 분석
- ❖ Missile LCC 분석

ATACMS OMS/MIP 개발 → Missile OMS/MIP 개발 → Missile 모델 개발 → Missile RM&A LCC 분석

ATACMS Systems Development

참고문헌

❖ 문헌 목록

출처 :
미 육군 훈련&교리
전자도서관(AOTDL)
www.adtdl.army.mil

미국군규격	제	일
FM 6-20	Fire Support In The Armed Battle	17 MAY 1988
FM 6-20-10	Infantry Techniques And Procedures For The Targeting Process	08 MAY 1993
FM 6-20-22	Tactics, Techniques, And Procedures For Corps Artillery, Division Artillery, And Field Artillery Brigade Operations	01 MAR 2001, SS FM 6-20-22, 7 JAN 1993
FM 6-20-30	Tactics, Techniques, And Procedures For Fire Support For Corps And Division Operations	18 OCT 1994
FM 6-60	Tactics, Techniques, And Procedures For Multiple Launch Rocket System (MLRS) Operations	23 APR 1996
FM 3-09.2 (FM 6-121)	Tactics, Techniques, And Procedures For Field Artillery Target Acquisition	21 JAN 2002, SS FM 6-121
FM 34-24-1	Joint Surveillance Target Attack Radar System (Joint STARS)	3 OCT 1995
FM 34-61-1	Rehearsal/View/Plan/Execute	21 DEC 1992
FM 34-130	Intelligence Procedures Of The Battlefield	08 JUL 1994
FM 44-85	PATRIOT Battalion And Battery Operations	21 JAN 1997
FM 71-100	Division Operations	48 JAN 1998
FM 71-100-2	Infantry Division Operations Tactics, Techniques, And Procedures	31 AUG 1993
FM 80-36	The Joint Targeting Process And Procedures For Targeting Time-Critical Targets	JAN 1997
FM 100-5	Operations	14 June 1993
FM 100-16	Comms Operations	29 OCT 1998
FM 101-5	Staff Organization And Operations	31 MAY 1997
FM 101-4-1	Operations, Terms And Graphics	29 SEP 1997

문헌명	주	비
ATACMS.mps	ATACMS방사선제 목표물 판독시행의 관리를 위하여	
ATACMS.mps.mps	ATACMS 미사일 발사용 방안	
BAT.mps	미국 Missile Submunition에 대시작 유도탄 BAT가 목표물을 유도시키는 방법	
MLRS.mps	MLRS의 기동성 향상과 목표물 유도 방법	
MLRS.mps	MLRS의 유도 방식의 다양성 향상	
Rates.mps	중유사(사망)의 지능성의 관리를 위한 방안	

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질의응답

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