

Synergy Experiences

by *Gerrit Muller* USN-SE

e-mail: `gaudisite@gmail.com`

`www.gaudisite.nl`

Abstract

This presentation discusses the experiences of using synergy. These experiences are quite mixed, ranging from disasters to being highly successful.

Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

August 16, 2025
status: draft
version: 0

logo
TBD

Experiences with reuse, from counterproductive to effective

bad

longer time to market
high investments
lots of maintenance
poor quality
poor reliability
diversity is opposed
lot of know how required
predictable too late
dependability
knowledge dilution
lack of market focus
interference
but integration required

good

reduced time to market
reduced investment
reduced (shared) maintenance cost
improved quality
improved reliability
easier diversity management
understanding of one base system
improved predictability
larger purchasing power
means to consolidate knowledge
increase added value
enables parallel developments
free feature propagation

Successful examples of reuse

homogeneous domain

cath lab
MRI
television
waferstepper

hardware dominated

car
airplane
shaver
television

limited scope

audio codec
compression library
streaming library

Limits of successful reuse

struggle with integration/convergence with other domains

TV: digital networks and media
cath lab: US imaging, MRI

how to innovate?

poor/slow response on paradigm shifts

TV: LCD screens
cath lab: image based acquisition control

software maintenance, configurations, integration, release

MRI: integration and test
wafersteppers: number of configurations

Sources of Failure in Generic Developments

Technical

- Too generic
- Innovation stops (stable interfaces)
- Vulnerability

Process/People/Organization

- Forced cooperation
- Time platform feature to market
- Unrealistic expectations
- Distance platform developer to customer
- No marketing ownership
- Bureaucratic process (no flexibility)
- New employees, knowledge dilution
- Underestimation of platform support
- Overstretching of product scope
- Nonmanagement, organizational scope increase
- Underestimation of integration
- Component/platform determines business policy
- Subcritical investment