



BRIDGING THE PHYSICAL-DIGITAL DIVIDE: DESIGNING DEPOTS FOR HYBRID COLLECTIONS

Innovative spaces integrating tangible
and digital archives

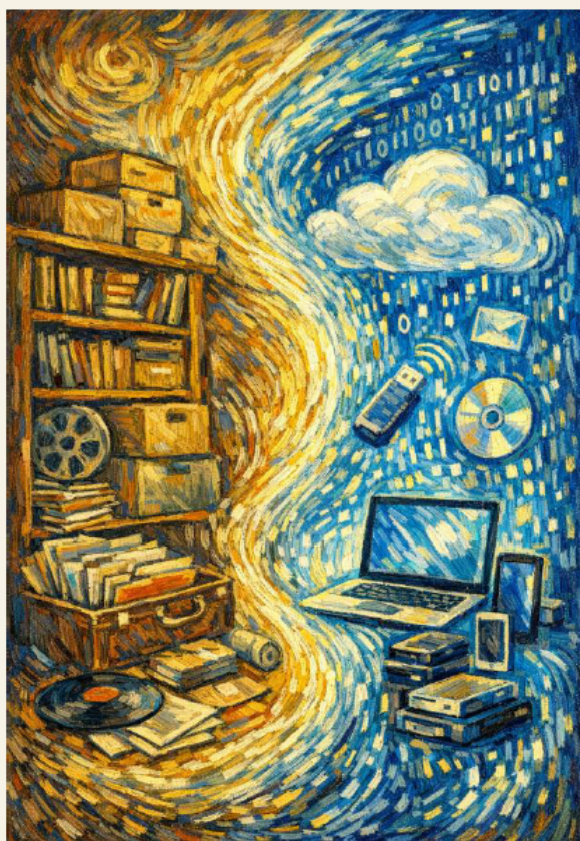


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THE NEW REALITY OF HYBRID ARCHIVES



DIGITAL AND PHYSICAL COLLECTIONS GROW TOGETHER



Expansion on both Axes

Digital collections grow exponentially, but physical collections continue to expand.

Digital and physical: the dual world

Most archives today operate in a “dual world”—paper, AV, digital, born-digital.

Adaptation and Investment

Budgets rarely double, so efficiency is crucial.

Hybrid is not a temporary phase — it is the permanent future.

MISCONCEPTIONS ABOUT HYBRID COLLECTIONS



MISCONCEPTION 1:

DIGITAL WILL REPLACE PHYSICAL



Physical collections continue to grow, often because of digitization
Once material becomes more accessible online, public awareness increases → more donations, more public interest, more acquisitions.

Digitization does not eliminate the preservation requirements for originals. Many items still require cold storage, special handling, or long-term conservation.

Digital files depend on the physical original
For authenticity, integrity checks, or re-digitization with future technologies.

Digital access increases the value of physical collections — it does not replace them.



MISCONCEPTION 2:

DIGITAL IS CHEAPER



Digital feels “weightless”

no shelves, no rooms, no moving boxes. However, digital preservation requires:

- Continuous data migration (every 5–10 years)
- Redundant storage at multiple locations
- Cybersecurity infrastructure
- Ongoing energy consumption for servers and cooling
- Skilled staff for digital ingest, metadata, fixity checking, etc.

Digital is different — not cheaper. Both forms require investment, just in different budget categories.



MISCONCEPTION 3:

PHYSICAL IS OUTDATED



Physical collections are the ultimate backup

Immune to hacking, ransomware, data corruption, or file format obsolescence.

Context, materiality, and authenticity

Things digital cannot replace.

Preservative needs

Many items (film, AV, oversized materials, born-analogue art) still require specialized physical care.

More environmentally stable

Low-energy physical storage can be more environmentally stable than energy-intensive digital infrastructure.



STUDY: 'PAPER ADVERTISING UP TO 5 TIMES BETTER FOR THE ENVIRONMENT THAN DIGITAL ADVERTISING'

https://www.oeko.de/fileadmin/oekodoc/2025-PCF_Print_vs_Digital_Werbung.pdf



THE PHYSICAL IMPACT OF DIGITAL GROWTH



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Digitization creates more physical workflows

Prep, quality control, rehousing, temporary intake areas.

More mixed-media challenges

Mixed media collections demand flexible storage for both physical and digital materials to optimize space and access.

Pressure on depot planning

Archives suddenly need spaces for servers, labs, ingest rooms, scanning rooms.

Rising conservation needs

Digital urgency often reveals physical deterioration → extra space for treatment.



DESIGNING HYBRID DEPOTS



DESIGNING DEPOTS FOR HYBRID COLLECTIONS

Zoning: one building, multiple environments

- Stable climate zones for paper.
- Adaptable zones for AV, film, mixed media.
- Technical zones for digital infrastructure.

Storage Flexibility

- Adjustable shelving and compact systems accommodate changing formats.
- Vertical optimization ensures room for unexpected future formats.

Workflow-driven layout

- Digitization labs should be close to storage.
- Use staging areas, quarantine zones, and processing rooms with logical flow.

Resilience & redundancy

- Physical collections act as the “fail-safe” of digital holdings.
- Depots must protect against cyber threats, power outages, fires, humidity events.

Space for digital heritage

- Server rooms, LTO storage, digital ingest areas — often forgotten in planning.



IT IS ALL
ABOUT THE
RIGHT FLOW



THE RIGHT FLOW FOR PHYSICAL, DIGITAL & HYBRID



Step 1

What to store?
How to store?
When to store?



Step 2

What to handle?
How to handle?
When to handle?



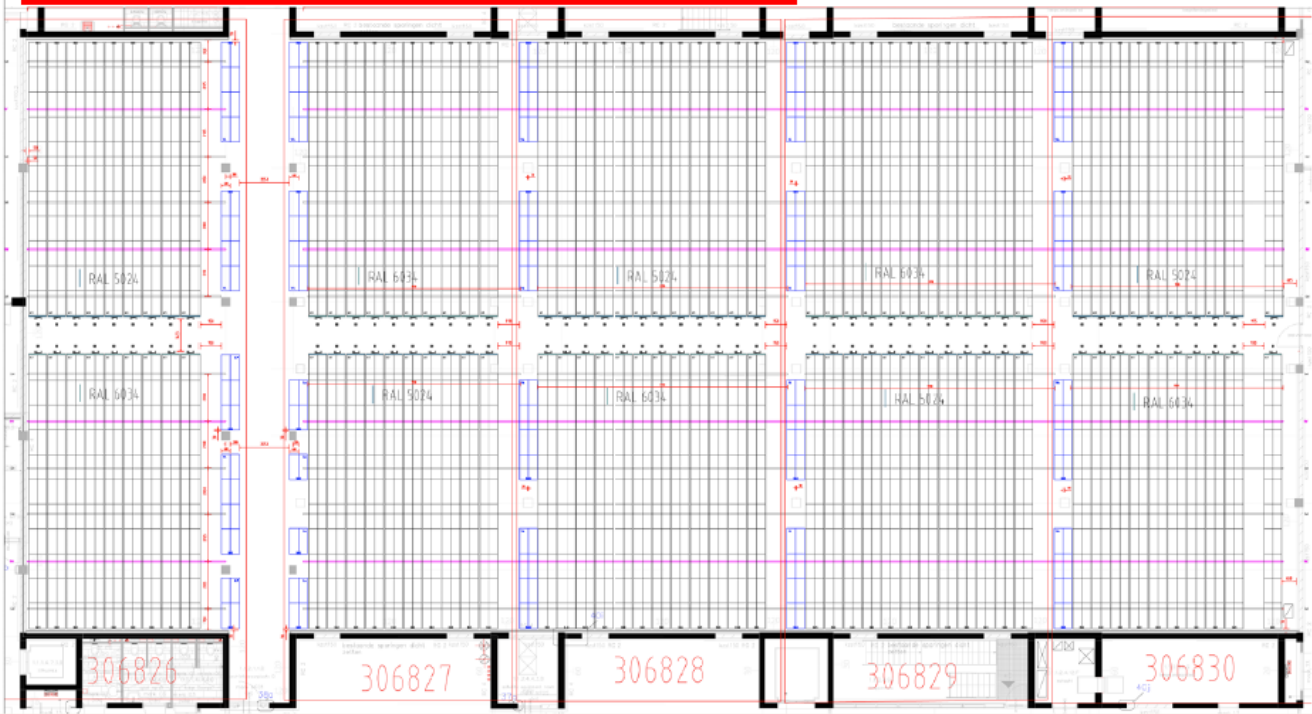
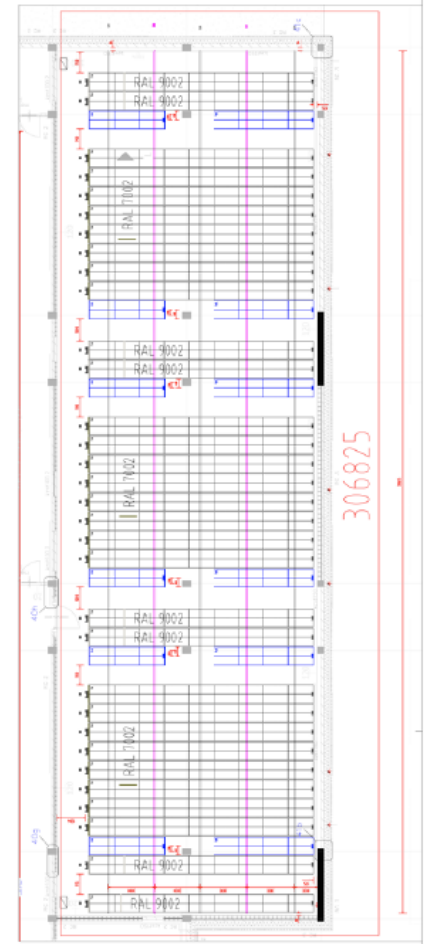
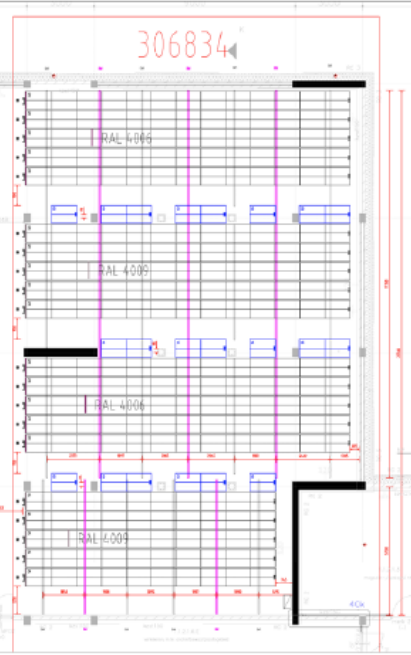
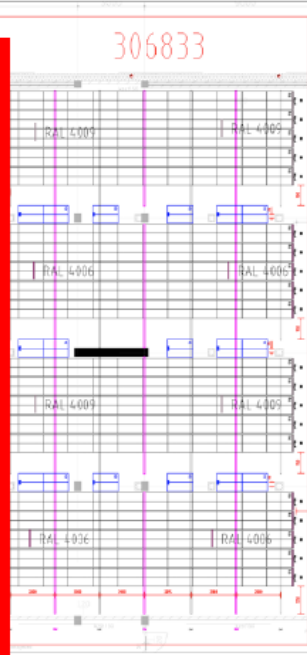
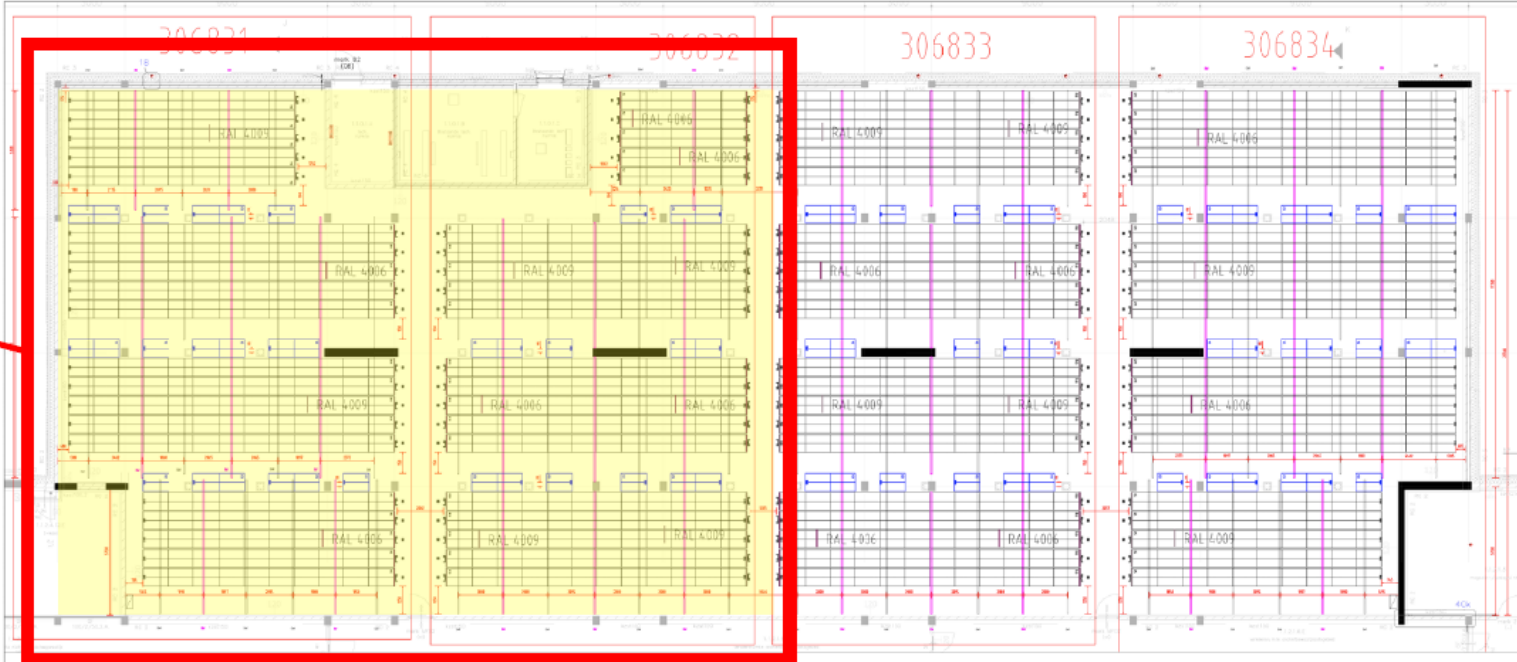
Step 3

The building is
the result, not the
start

EXAMPLE:
NATIONAAL
ARCHIEF NL



From archive systems



RAL 4005	RAL 4006	RAL 4007	RAL 4008	RAL 4009	RAL 4036	RAL 5024	RAL 6034	RAL 7402	RAL 9001	RAL 9002
Legend										
RAL 4005 - RAL 4009, RAL 4036, RAL 5024, RAL 6034, RAL 7402, RAL 9001, RAL 9002										
RAL 4006 - RAL 4008, RAL 4009, RAL 4036, RAL 5024, RAL 6034, RAL 7402, RAL 9001, RAL 9002										
RAL 4007 - RAL 4008, RAL 4009, RAL 4036, RAL 5024, RAL 6034, RAL 7402, RAL 9001, RAL 9002										
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RAL 9001 - RAL 9002										
RAL 9002										

CHECKLIST FOR HYBRID-READY DEPOTS



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1. Plan physical and digital together from the very start.
2. Focus on adaptable storage — formats will keep changing.
3. Design workflows that shorten the distance between storage and labs.
4. Use compact storage to free room for new digital functions.
5. Evaluate sustainability holistically: building + servers + preservation strategy.
6. Maintain physical collections as the long-term security layer for digital assets.



THANK YOU FOR YOUR ATTENTION

