

# DESIGNING FOR DEMENTIA



## OVERVIEW

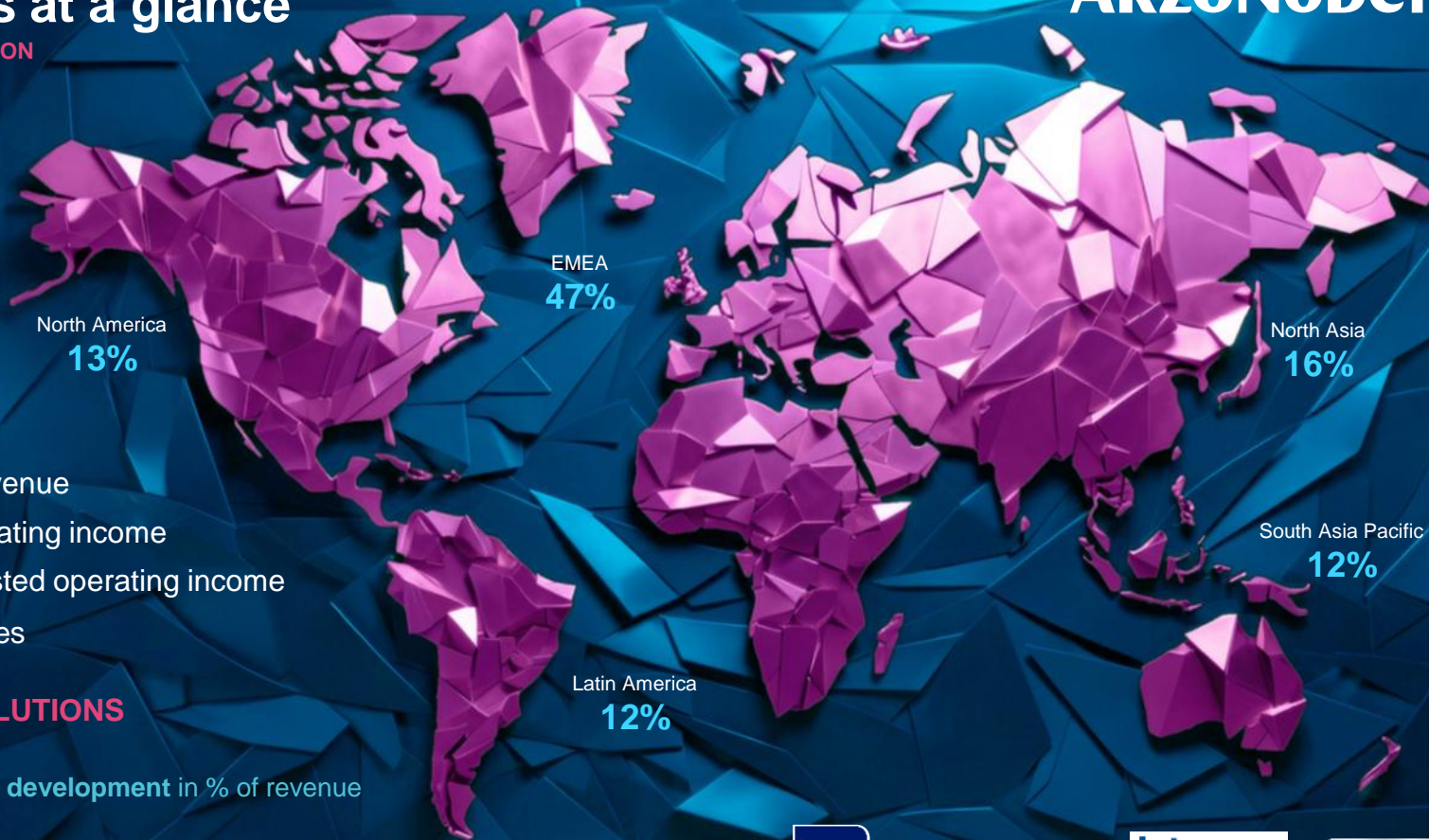
- INTRODUCTION TO AKZONOBEL
- SEMINAR OBJECTIVES
- DEMENTIA FACTS AND WHY DESIGN MATTERS
- INCLUSIVE DESIGN
- CREATING YOUR COLOUR SCHEME
- SUMMARY

# Introduction to Akzonobel

# 2023 results at a glance

REVENUE BY DESTINATION

## AkzoNobel



### 2023 KEY DATA:

€10,668 mln revenue

€1,029 mln operating income

€1,074 mln adjusted operating income

35,200 employees

### SUSTAINABLE SOLUTIONS

39%

Sustainable solutions development in % of revenue

39 / 39 / >50

2022 2023 2030

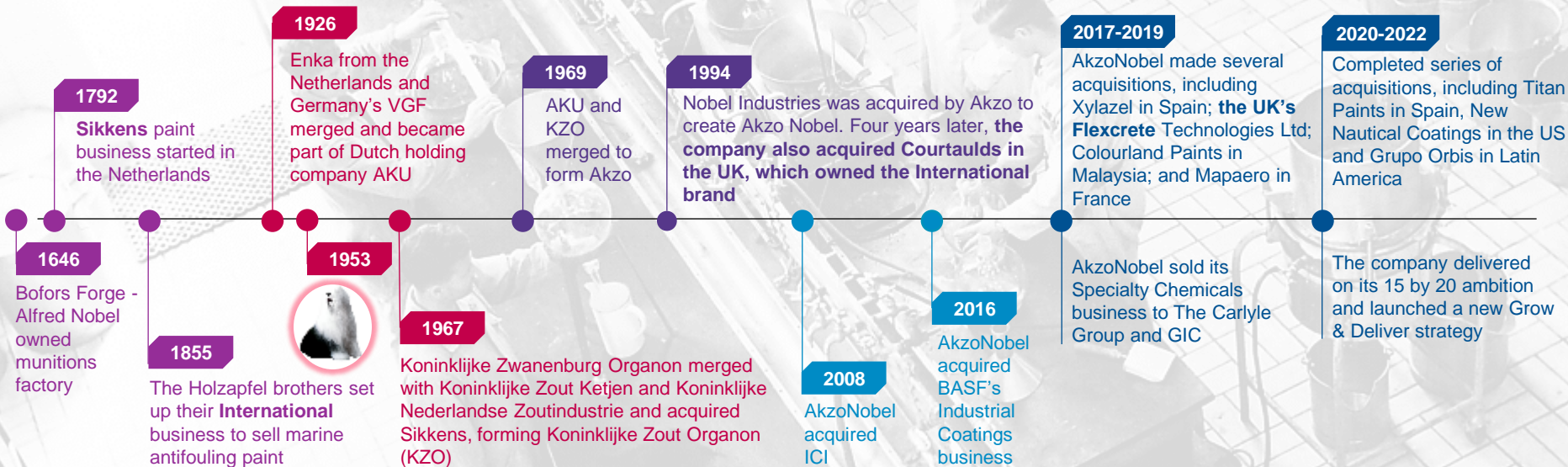


International

Interpon  
POWDER COATINGS

sikkens

## We've been setting the standard in colour and protection for more than 200 years



# AkzoNobel sustainability pyramid

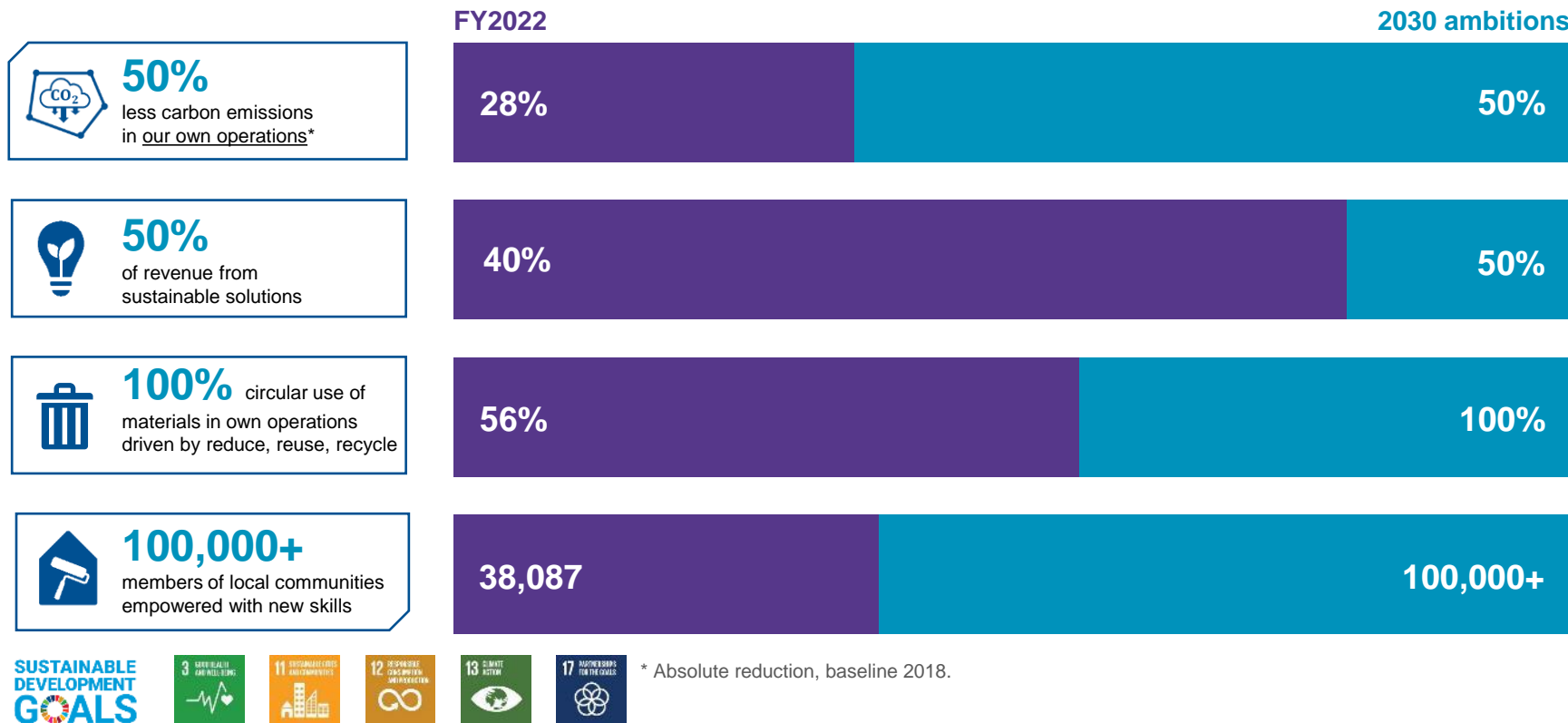
Our products and brands make it possible for us to live up to our People. Planet. Paint. sustainability approach.

They're each making crucial contributions to our sustainability ambitions through all the layers of this pyramid.



\*Baseline 2018

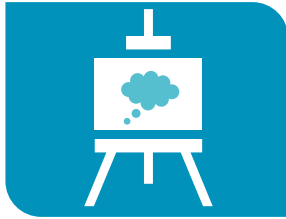
## Progress towards our ambitions



## SEMINAR OBJECTIVES



Clearer understanding of dementia



The considerations of good design



How to create dementia friendly interiors

# Dementia Facts & Why Design Matters

## QUICK QUIZ

**Q1** How many people in the UK are expected to develop dementia this year?

(Answer: 225,000 people – see next slide)

**Q2** What percentage of people living with dementia stay living in their own homes?

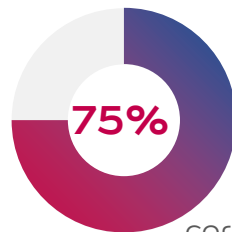
(Answer: around 70-80%)

**Q3** What is the approximate cost to the UK of caring for people with dementia?

(Answer: £26 billion (2018 estimate) – see next slide)

## DEMENTIA STATISTICS

There are **850,000 people** with dementia in the UK, with numbers set to rise to **over 1 million by 2025**. This number is predicted to soar to **2 million by 2051**.



of people in care homes have dementia or severe memory problems.



**1 in 4** of hospital beds are occupied by people living with dementia who are over 65



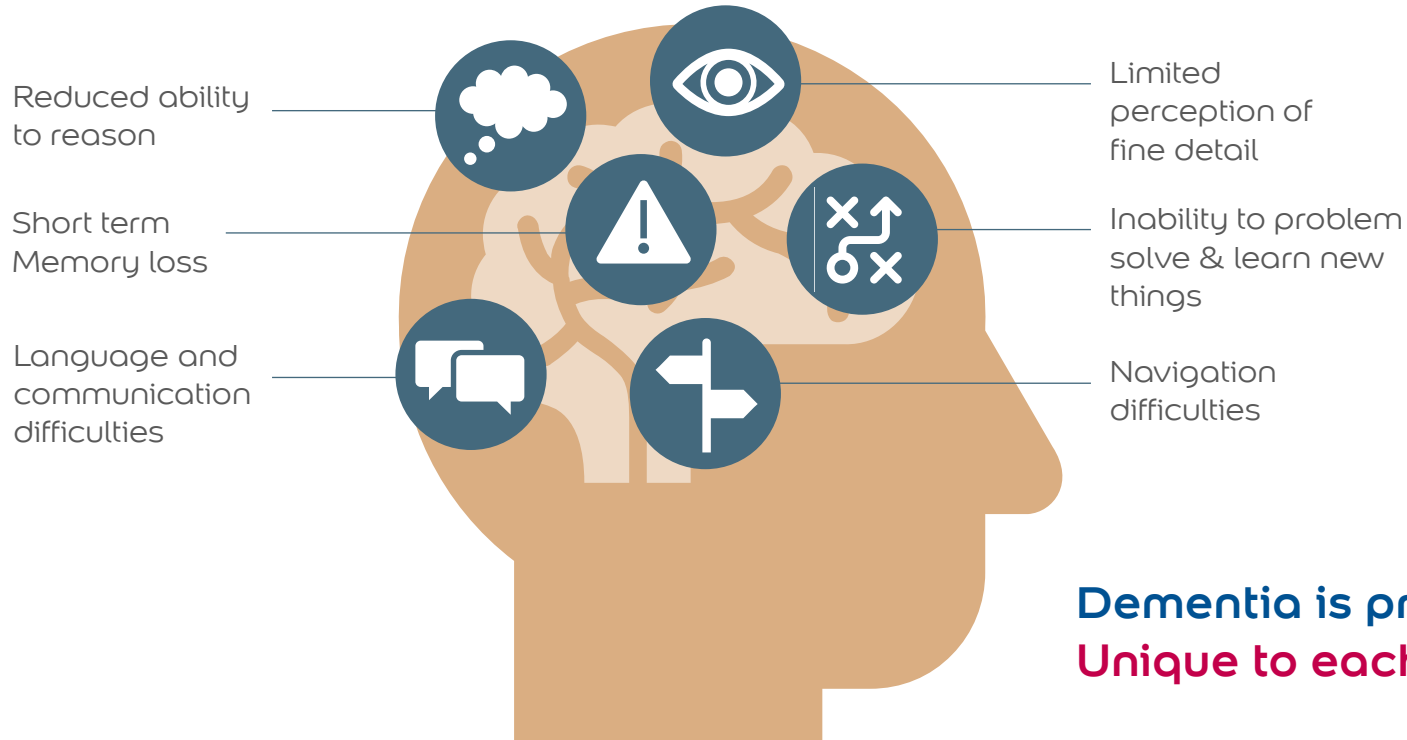
**225,000**

will develop dementia this year, that's **one every three minutes**.



The cost of dementia to the UK is currently **£26 billion** per year, which works out as an average annual cost of **£32,250 per person** with dementia.

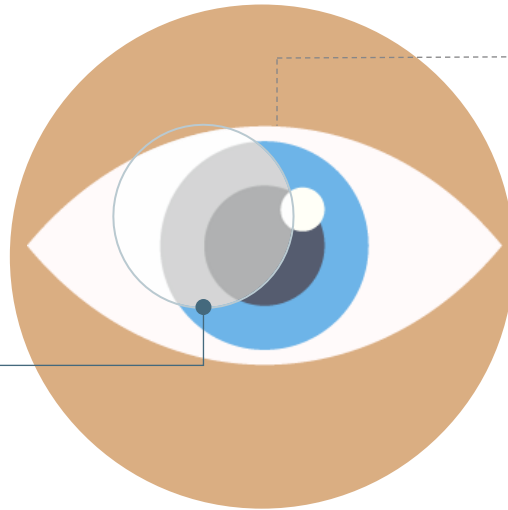
## THE IMPACT OF DEMENTIA



**Dementia is progressive**  
**Unique to each individual**

## EFFECTS ON VISION: THE SCIENCE OF DEMENTIA DESIGN

Up to 75% of people over the age of 75 will have vision problems. As our eyes age they become more opaque, causing colours to be 'washed out', making it harder to differentiate between different substrates.<sup>1</sup>



Two colours which appear contrasted to someone with normal vision may not be perceived well by those with slight deficiencies, colour deficits or dementia.<sup>2</sup>

## WHY GOOD DESIGN IS IMPORTANT

To enhance the **quality of life** for people living with dementia by making **different areas as clear as possible**



## WHAT CAN HAPPENS WHEN WE GET IT WRONG

- Unnecessarily become more dependant on others
- Increased slips, trips & falls
- Distressed behaviour
- Anxiety through boredom
- Reduced quality of life



# Inclusive Design

### Considerations when designing for dementia



Inclusive design encourages the application of colour to enable occupants to more readily identify different areas of the entire living space

## MISCONCEPTIONS



Research to date has not shown that there are specific good colours or “dementia friendly” colours. It is about the appropriate use of colours in terms of location and proportion.

## WE ARE ALL INDIVIDUALS!



It is important to remember that we are all individuals and we all like different things. Living with dementia does not mean we have lost our preferences, tastes and likes/dislikes.

## INCLUSIVE DESIGN: LETS START WITH COLOUR AND CONTRAST

Make sure the designs fit both fully sighted and visually impaired.



We all benefit from visual colour & contrast to aid in navigation

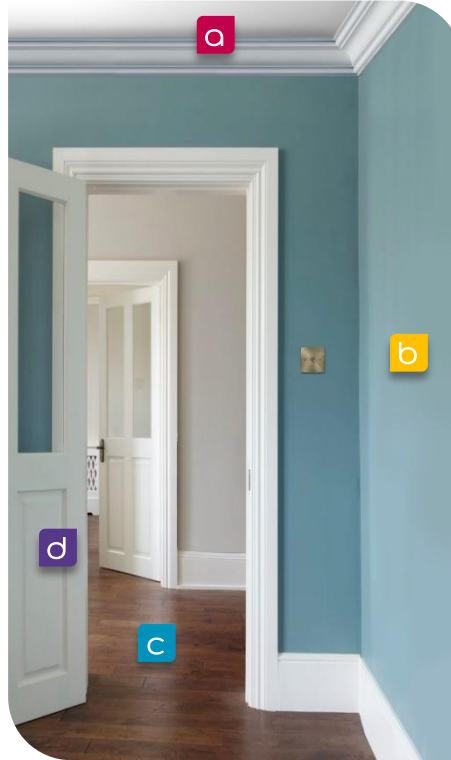
Highlight key features & potential hazards, clearly differentiate critical surfaces.

## CRITICAL SURFACES

### Critical Surfaces:

- Are the most important in understanding a space.
- Should be clearly differentiated from each other.

Fittings and Obstacles should also contrast with surroundings.



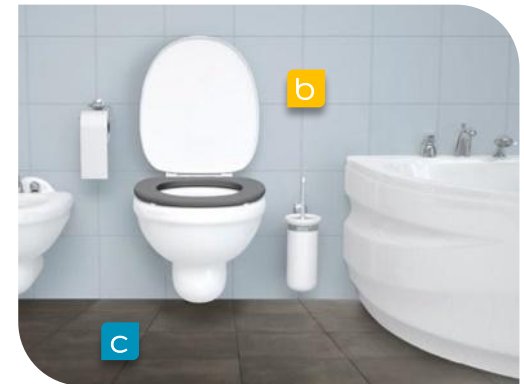
These include:

**a** ceiling

**b** wall

**c** floor

**d** doors



It is helpful to use the **30 point LRV** difference rule. (LRV = Light reflectance value).  
As recommended in British Standard BS8300-2

## INCLUSIVE DESIGN: WAY FINDING

- Colour as a visual prompt
- Enhancing navigation skills
- Promoting independence
- Create focal points



## INCLUSIVE DESIGN: DIFFERENTIATING ROOMS

- Indicate the room's purpose
- Helps with identification
- Incorporate family into the design
- Builds confidence and awareness



## INCLUSIVE DESIGN: FLOORING

- Consistent tone / LRV
- Thresholds should blend
- Appropriate acoustic qualities

### Avoid:

- Stripes
- High Sheen
- Strong or speckled patterns



## INCLUSIVE DESIGN: TEXTURED SURFACES

### Painting Brick or Wood can be transformational:

- Brighten darker spaces
- Highlight features e.g. handrails
- Add consistency to design throughout a building, through flow of colour

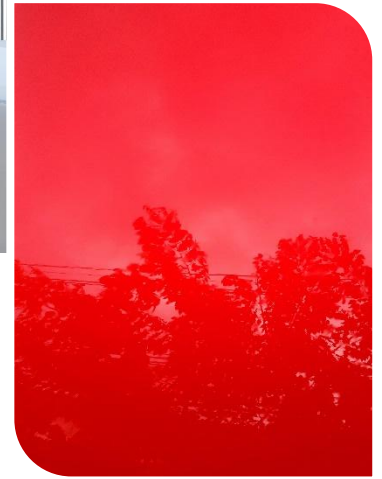


### But be aware

- Texture can alter how colour appears

## INCLUSIVE DESIGN: SURFACE SHEEN

- Glossy surfaces can cause confusing impressions, & may look wet or slippery
- Softer materials and matt surfaces will reflect less.
- Sheen is the property of a paint that defines whether it is gloss, silk or matt. **For paint products matt or eggshell finishes are preferable.**



## INCLUSIVE DESIGN: FURNISHINGS, FINISHES & MATERIALS

- Contrasting from surroundings
- Recognisable style to depict function
- Practical – e.g. chairs are easy to get in and out of
- Avoid potentially confusing patterns



## INCLUSIVE DESIGN: THE EFFECT OF ARTIFICIAL LIGHTING

Adequate and Appropriate Lighting  
is Crucial

Poor lighting can:

- Reduce visual contrast
- Create uncomfortable environments through shadowing or glare
- Change the appearance of colours



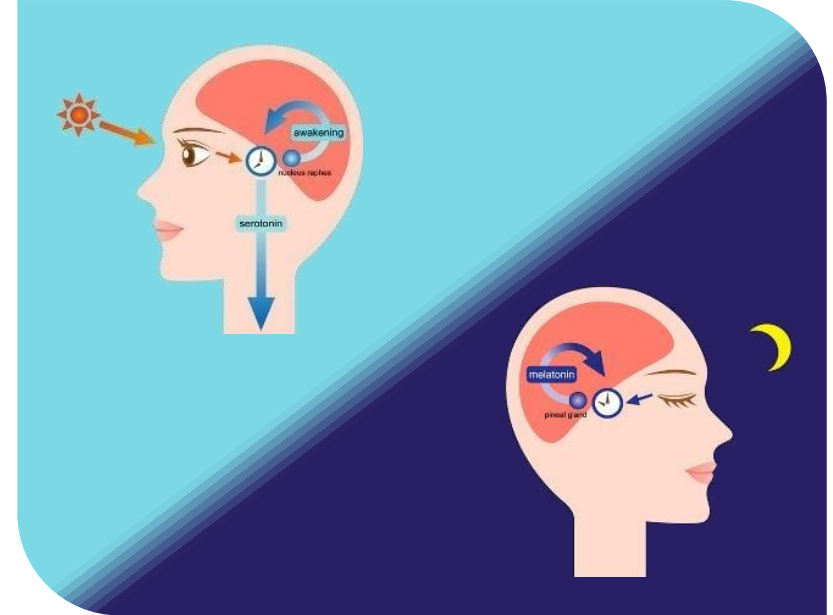
## INCLUSIVE DESIGN: WINDOWS & NATURAL LIGHTING

- Natural Light is a good source of illumination,
- Windows with views of natural world can be beneficial
- Be aware of the effect of shadows
- Use manifestations on full-length glass panes and doors

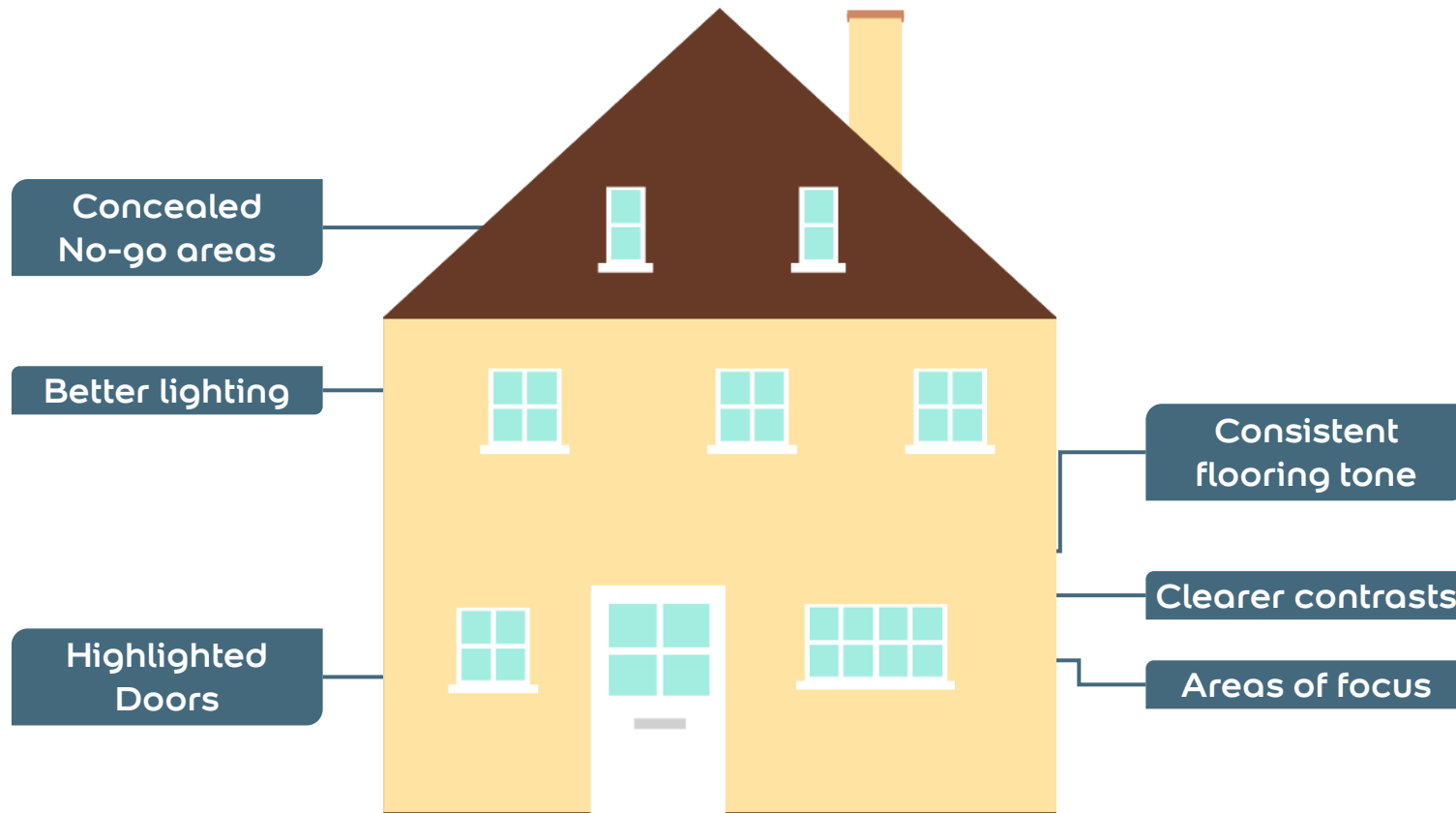


## INCLUSIVE DESIGN: SUPPORTING SLEEPING PATTERNS

- Many older people have difficulty regulating their body clock
- Sleep patterns are disturbed
- May lead to Sundowning: increase in confusion / agitation in evening
- Exposure to correct type of light for time of day, can help:
  - high levels of daylight / blue light in morning
  - dark and quiet conditions at night

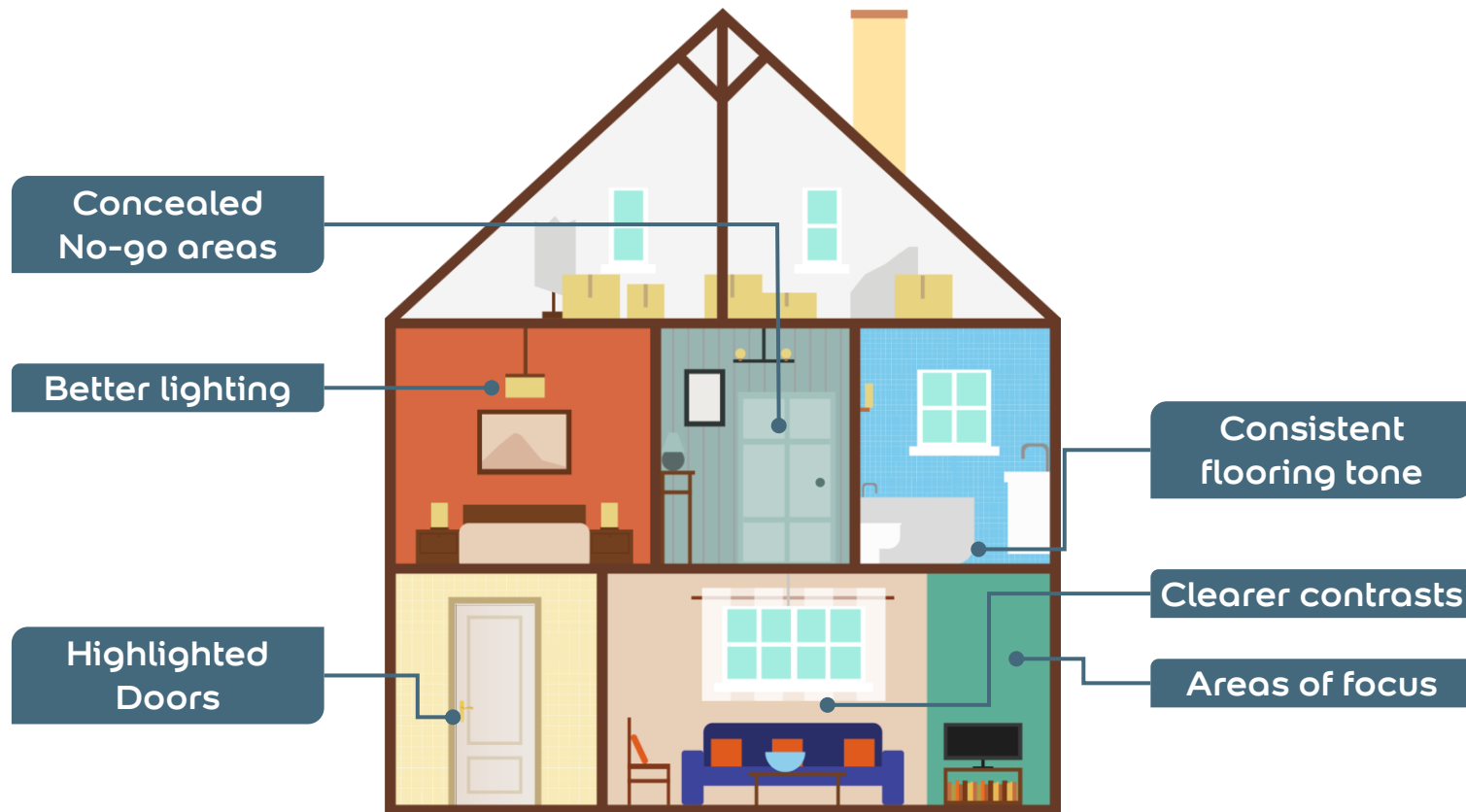


## SMALL CHANGES CAN MAKE ALL THE DIFFERENCE...



\* Stirling university study

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AkzoNobel

# Creating Your Colour Scheme

## CREATING YOUR SCHEME

- Colour should be integral to project - don't leave until the end
- Gather lots of information
- Talk about personal needs & preferences with individuals
- Think about texture, finish and colour
- As well as durability and usability

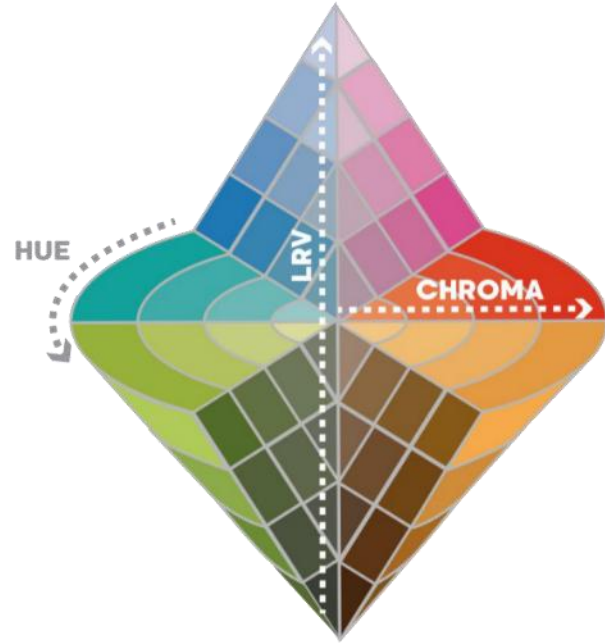


## HOW THE EYE PERCEIVES COLOUR

COLOUR, AS PERCIEVED BY THE AVERAGE EYE, IS TRI-DIMENSIONAL:

- Hue
- Light Reflectance Value (LRV\*)
- Chroma

\*LRV Difference Defines Visual Contrast as Referenced in the Equality Act Guidelines and in BS 8300-2:2009



## COLOUR NOTATION SYSTEMS

### THERE ARE MANY COLOUR NOTATION SYSTEMS USED GLOBALLY

The Role of the Notation System is to Give Each Colour a Clear, Unique Identity and to Aid Colour Scheming

A Good Notation System will Reflect How the Eyes See Colour



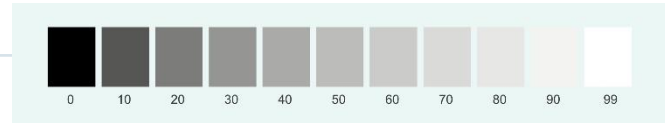
## EXAMPLE OF A NOTATION SYSTEM

### COLOUR PALETTE NOTATION REFLECTS THE THREE DIMENSIONS OF COLOUR:

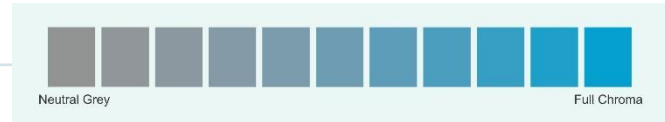
HUE – THE COLOUR FAMILY



LIGHT REFLECTANCE VALUE (LRV) –  
LIGHTNESS OR DARKNESS OF COLOUR



CHROMA – INTENSITY OR PURITY OF COLOUR;  
LOWER CHROMA = MORE NEUTRAL OR GREY  
HIGHER CHROMA = MORE INTENSE COLOUR



EXAMPLE NOTATION:

**30BB** **08** / **263**  
HUE LRV CHROMA

NB: It is the LRV part of the notation which is used to identify colours that are sufficiently contrasting

## EXAMPLE OF A NOTATION SYSTEM

COLOUR PALETTE NOTATION REFLECTS THE THREE DIMENSIONS OF COLOUR:

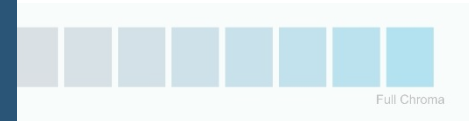
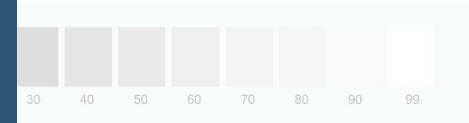
HUE – THE COLOUR FAMILY

LIGHT REFLECTANCE VALUE (LRV)  
LIGHTNESS OR DARKNESS OF COLOUR

CHROMA – INTENSITY OR PURITY

LOWER CHROMA = MORE NEUTRAL

HIGHER CHROMA = MORE INTENSE COLOUR



EXAMPLE 1 **30BB** **08** / **263** } / **263**  
HUE LRV CHROMA CHROMA

## SELECTING COLOURS: THREE SIMPLE SCHEME TYPES:

### TONAL SCHEMES:

DIFFERENT DEPTHS OF THE  
SAME HUE FAMILY



### HARMONISING SCHEMES:

COLOURS FROM  
NEIGHBOURING HUES



(Max of 3 paint colours  
in this type of scheme)

### CONTRASTING SCHEMES:

COLOURS OPPOSITE ON THE  
COLOUR WHEEL



(Use 70/30 or 60/40  
ratio in this scheme)

## COLOUR PROPORTION & FLOW

- Consider the proportion of colour



Colours covering a large area often tend to appear brighter and more vivid than colours covering a small area.

# Summary

## SUMMARY



Better understanding of the effects of dementia, respecting individuality & why we need to do more



What needs to be considered when creating good design



The importance of Colour & Contrast and why it is key to visual accessibility & navigation techniques



Awareness of the different aspects for critical surfaces to help us create dementia friendly environments

**THANK YOU**

## FURTHER INFORMATION

- Design guidelines can be found in 'Improving the design of housing to assist people with dementia' by Stirling university. <http://dementia.stir.ac.uk/design/virtual-environments>
- Design for Dementia – A Guide; Bill Halsall and Dr Rob McDonald , Liverpool John Moores University (2015)
- The Alzheimer's society <https://www.alzheimers.org.uk/>
- Research done with the BRE, Loughborough University & Halsall Lloyd Architects.  
<https://www.bregroup.com/ipark/parks/england/buildings/dementia-friendly-home/>
- Contact the [Dulux Trade Advice Line](#) on 0333 222 770 for more information and for a copy of the [Designing for Dementia: Colour Palette and Design Guide](#)
- Dulux trade paint expert Colour Contrast tool  
<http://content.duluxtradepaintexpert.co.uk/web/ColourContrast/index.html>
- For additional healthcare environment design guidance, see the [Social Care & Dementia sector on the Dulux Trade Occupant Centred Colour and Design Hub](#): <https://www.duluxtradepaintexpert.co.uk/en/content/occd-aged-care>
- Equality Act 2010 & Building Regulations - [Approved Document Part M-2 2018](#)
- British Standard BS8300-2:2018 '[Design of buildings and their approaches to meet the needs of disabled people](#)'

## ACKNOWLEDGEMENTS

- BRE, Loughborough University, Halsall Lloyd Architects and Liverpool John Moores University.
  - for creating the project known as Chris & Sally's house, and the research that supports it



- Sue Lloyd at Nottingham City Homes
  - for photography & insights into the day to day use of design in housing for older residents



- The Dementia Services Development Centre at Stirling University
  - for the work and training they have been doing in this area for many years

