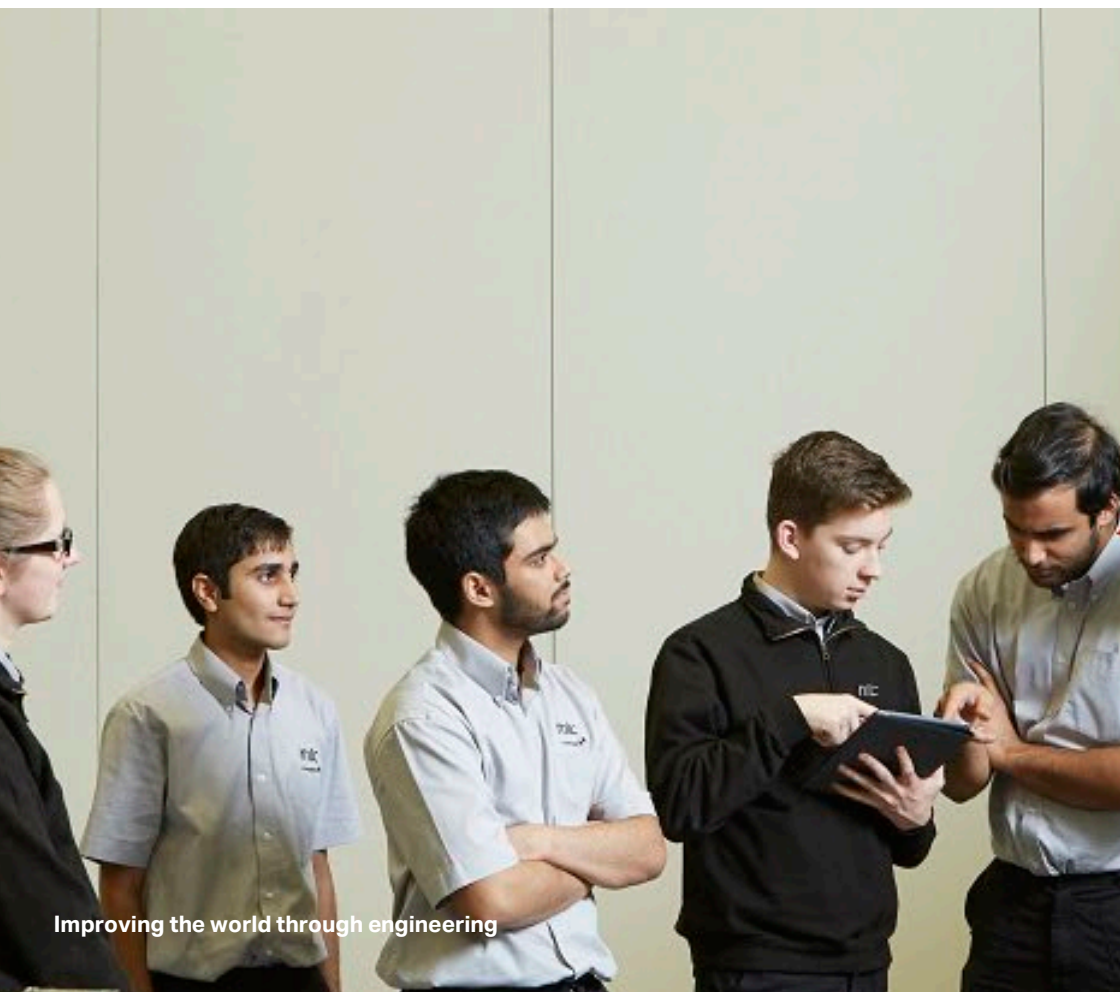


DIFFERENT TYPES OF NEURODIVERSITY

Institution of
**MECHANICAL
ENGINEERS**



Improving the world through engineering

TYPES OF NEURODIVERSITY

An Introduction

Neurodiversity comes in many forms and along a very wide spectrum, so whilst we cannot list all aspects here, we have shared some helpful information on a number of the most commonly known ones below:

ADHD

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that is characterised by impulsivity, hyperactivity, hyper focus and/or difficulty concentrating or staying focused on tasks.

Those with ADHD may have difficulty following directions, difficulty completing tasks, difficulty controlling behaviour, restlessness, difficulty with memory and organisation, and being easily distracted.

Benefits of ADHD

1. **Enhanced Creativity:** People with ADHD often bring a heightened level of creativity and intellectual curiosity to their work
2. **Intense Focus:** When people with ADHD are deeply interested in a topic, they are able to focus on it intently
3. **Adaptability:** People with ADHD are often quick learners and able to adapt quickly to changing environments
4. **Out-of-the-Box Thinking:** People with ADHD are often able to think outside the box and come up with unique solutions to problems
5. **Tenacity:** People with ADHD often have strong perseverance and are able to stay focused on a goal for a long period of time

Aspergers Syndrome

Asperger's Syndrome is a neurological condition that is classified as being on the autism spectrum. It is characterised by difficulties in social interaction, communication, and recognising and understanding social cues and boundaries.

People with Asperger's Syndrome often have difficulty understanding terms and expressing emotions and have trouble understanding the meanings behind facial expressions and other forms of non-verbal communication.

Additionally, people with Asperger's Syndrome often have intense interests in specific topics and may have awkward mannerisms or difficulty engaging in activities which require a lot of interpersonal interactions.

Benefits of Aspergers Syndrome

1. **Attention to Detail:** People with Asperger's often have a keen attention to detail, allowing them to identify and analyse problems in ways that others might overlook
2. **Deep Interests:** People with Asperger's often have deep, narrow interests, and can become experts in the area
3. **Intellectually Quick:** People who are on the autism spectrum often possess exceptional cognitive aptitude and are able to think quickly
4. **Empathetic Perspective:** People with Asperger's are often gifted with great insight and can see the perspectives of others
5. **Strong Memory:** People with Asperger's often have a strong memory and remember details that other people may not

Autism

Autism is a neurological condition that is part of the autism spectrum disorder (ASD). It is characterised by difficulties in communication, social interaction, and imagination.

People with autism often have atypical or repetitive behaviours, making it more difficult for them to engage in regular activities such as working, attending school, and building relationships with others.

Common behaviours associated with autism are a lack of eye contact, difficulty understanding abstract concepts, use of repetitive language, love for routine and structure, and difficulty interpreting social cues and boundaries.

Benefits of Autism

1. Often have an impressive working memory and a knack for hyper-focusing on tasks of interest
2. Autistic people can be incredibly creative and excel at areas such as music, art, computing and mathematics
3. Autistic individuals often demonstrate exceptionally strong visual acuity and auditory processing abilities with powerful memory skills
4. Tend to have an aptitude for seeing the bigger picture and can often find interesting ways of relating seemingly unrelated concepts
5. Appreciation for ritual and routine and a unique perspective on the world

Dyscalculia

Dyscalculia is a learning disability that affects a person's ability to understand and use numbers and maths. It is characterised by difficulty with basic maths concepts, counting, understanding maths symbols and equations, and developing maths skills.

Those with dyscalculia may find difficulty learning maths, confusion with numbers and operations, difficulty with memorising maths facts, slow speed in completing maths tasks, and difficulty with problem solving that involves maths.

Benefits of Dyscalculia

1. People with dyscalculia often have an aptitude for creative thinking and problem solving
2. They may be better at recognising patterns and relationships, understanding principles, and coming up with inventive solutions or strategies
3. People with dyscalculia may excel in subjects such as art, music, and design
4. They can be good at recognising memory games or puzzles
5. They can develop strong communication and interpersonal skills, which often helps them work better with others

Dyslexia

Dyslexia is a learning disability that affects a person's ability to read, spell, write, and process language. It is a neurological condition that affects the cortical activity related to language processing, making it difficult for someone with dyslexia to process, organise, store, and retrieve written information.

Common signs of dyslexia include difficulty sounding out words, difficulty remembering and recognising letters, poor spelling, difficulty comprehending text, and difficulty organising written information into meaningful sentences.

Benefits of Dyslexia

1. They may excel in visual arts, music, design, and other creative fields; people with dyslexia can often write creatively and proficiently
2. High creative thinking – many dyslexic people consistently display an aptitude for out-of-the-box thinking and problem-solving
3. Strong visual-spatial skills – dyslexic people often have the ability to visualise information and connect ideas in a very intuitive way, making them great architects and designers
4. Good problem-solving skills – approaches to problem-solving among dyslexic people tend to be more visual and intuitive with a greater focus on connecting the dots between ideas
5. Above average leadership skills – dyslexic people can often be strong leaders due to their ability to think differently and take calculated risks

Dyspraxia

Dyspraxia is a neurological condition affecting coordination and motor planning. It is characterised by difficulty with balance, controlling body movements, planning and organising tasks, and grasping the details of instructions.

Dyspraxia can affect different areas such as communication, physical activity, development, and sensory processing, and can manifest in different ways in each individual.

Benefits of Dyspraxia

1. Excellent problem-solving skills – people with dyspraxia are often able to analyse situations in great detail, often seeking out solutions for problems that go beyond the obvious
2. Good organisational skills – people with dyspraxia often have the ability to develop good organisational skills and strategies
3. Improvisation – given their adapting strategies to problem solving, they tend to be more adept at creating their own quick solutions to unexpected problems
4. Better concentration – people with dyspraxia are able to focus for long periods of time, managing distractions and effectively concentrating on tasks or projects
5. Improved communication skills – people with dyspraxia often develop better interpersonal communication skills, utilising the ability to accurately pick up on the feelings of others

Tourette Syndrome

Tourette syndrome is a neurological condition characterised by physical and vocal tics. Physical tics include sudden, involuntary movements such as jerking of the head, blinking, and vocal tics include involuntary vocal sounds such as clearing the throat or grunting.

People with Tourette Syndrome often have other conditions such as Attention Deficit Hyperactivity Disorder (ADHD) or Obsessive Compulsive Disorder (OCD).

Benefits of Tourette Syndrome

1. Attention to detail – People with Tourette's often excel when focusing on small details and facts, often forming very thorough analyses
2. Perseverance – People with Tourette's are often able to continue working even in the face of difficult tasks and challenges
3. Focus and clarity – Those with Tourette's are able to clearly focus on tasks even when distractions are present
4. Greater Sense Of Self Awareness - This sense of self-awareness can lead to increased insight into one's own behaviour and choices, as well as a better understanding of other's perspectives
5. Enhanced empathy abilities through a lifetime of having to adapt to other people and develop empathy skills through this